

*Technical Report Series No.18*

# GROWTH AND PHYSICAL DEVELOPMENT OF INDIAN INFANTS AND CHILDREN



INDIAN COUNCIL OF MEDICAL RESEARCH  
Ansari Nagar, New Delhi

1989

UHA I  
15/7/94

3037





# CONTENTS

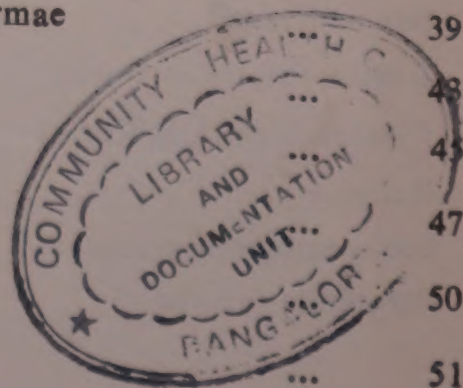
	<i>Page</i>
Foreword	... (iii)
Members of the Working Party	... (iv)
Officers-in-Charge of the Units at inception	... (v)
Acknowledgements	... (vi)
Introduction	... 1
Object of the study	... 1
Plan of the study	... 2
Location of Units and coverage of areas	... 2
Definition of an eligible child	... 3
Sampling design	... 4
Composition of Study Team	... 4
Methodology	... 4
Training of staff	... 5
Equipment	... 5
Proforma	... 5
Recording of age	... 5
Execution of the plan	... 5
Methods of assessment of Growth and Physical Development	... 6
Processing of the data	... 6
Presentation of data	... 7
Limitation of the study	... 7
Description of data	... 9
Sex and age	... 9
Region (States of India)	... 10
Residence (Urban/Rural)	... 11
Religion	... 11
Socio-economic status	... 11
Per-capita income	... 12

	<i>Page</i>
Evaluation of data	13
Infant growth	13
Growth of children aged 1 through 18 years	13
Anthropometric measurements	14
Bicristal diameter	14
Head circumference	15
Chest circumference	16
Standing height	17
Sitting height	19
Weight	20
Relationship between height and weight	22
Relationship between head and chest circumferences	27
Percentage distributions of standing height and weight	28
Standing height	28
Weight	28
Physical development	33
Factors influencing growth and physical development	33
Region (States of India)	33
Residence (Urban/Rural)	34
Religion	34
Socio-economic status	35
Per-capita income per annum	35
Comparison of data from selected countries	36
Annexures	
(A) A note on the Sample Design	37
(B) Key to recording the information in the Proformae	39
Proforma for boys	48
Proforma for girls	45
(C) Classification of Data	47
References	50
Detailed tables	51

3037

CH 130

(ii)

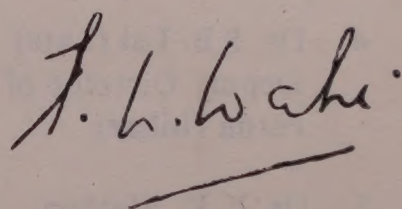




## FOREWORD

I have great pleasure in presenting this comprehensive report on different aspects of growth and physical development of Indian children from birth to 21 years of age on a country-wide basis. The Indian Council of Medical Research undertook the cross-sectional study in 1957 when it found that developmental standards and norms of various anthropometric measurements did not exist for Indian infants and children. The Council appointed a Working Party to go into the problem in great depth and to suggest the details of procedure of the survey. On the recommendation of the Working Party, the Council established seven Units in different parts of the country. Experts in the field of anthropology, statistics, nutrition and paediatrics were invited to help the Council in this task.

The study has brought forth the much needed information on growth norms and developmental standards of Indian children. I hope, these data will be useful to the interested workers in various fields.



(P.N. Wahi)

Director-General

Indian Council of Medical Research

New Delhi.

## MEMBERS OF THE WORKING PARTY

1. Dr. B.P. Adhikari  
Professor of Research and Training Section  
Indian Statistical Institute  
203 B. T. Road  
Calcutta-35 (West Bengal)
  2. Dr. J.N. Berry  
Professor and Head of the Department of Medicine  
Post-graduate Institute for Medical Education and Research  
Chandigarh-12
  3. Dr. John K.G. Webb  
29, Park Grove  
Henleaze  
Bristol BS94 LF  
U.K.
  4. Dr. S.B. Lal (Late)  
Deputy Director of Health Services  
Patna (Bihar)
  5. Dr. K.K. Mathen  
Regional Adviser in Health Statistics  
African Region  
World Health Organization  
Brazzaville, Congo (Africa)
  6. Dr. M.V. Phadke  
Director of Paediatrics  
Sassoon General Hospital  
Poona (Maharashtra)
  7. Dr. Someswara Rao  
Adviser on Nutrition  
W.H.O. Consultant  
5, Rue Ahmad Zulficar Apartment-5  
Lowrens  
Alexandria (U.A.R.)
- (Convener)



## OFFICERS-IN-CHARGE OF UNITS AT INCEPTION

- Unit 1. Dr. D.N. Majumdar (Late)  
Head, Department of Anthropology  
University of Lucknow  
Lucknow (Uttar Pradesh)
- Unit 2. Dr. V.N. Patwardhan (Late)  
Director, Nutrition Research Laboratories  
Hyderabad (Andhra Pradesh)
- Unit 3. Dr. P.C. Biswas  
Professor and Head of the Deptt. of Anthropology  
University of Delhi  
Delhi
- Unit 4. Dr. (Miss) L.V. Phatak  
Head, Department of Obstetrics and Gynaecology  
G.R. Medical College  
Gwalior (Madhya Pradesh)
- Unit 5. Dr. J.N. Berry  
Professor of Medicine  
Medical College  
Nagpur (Maharashtra)
- Unit 6. Dr. M.V. Phadke  
Director of Paediatrics  
Sassoon and B.J. Medical College  
Poona (Maharashtra)
- Unit 7. Dr. P. Tirumala Rao  
Head, Department of Paediatrics  
Andhra Medical College  
Visakhapatnam (Andhra Pradesh)

## ACKNOWLEDGMENTS

The Council expresses its gratitude to the Members of the Working Party who drew up all the details of the study, and to all the Officers-in-Charge of the seven Units. Thanks are due to all the Members of the Study Teams which participated and collected these valuable data, often under very arduous conditions.

The Council is grateful to the National Center for Health Statistics, Department of Health, Education and Welfare, U.S.A., for its collaboration in the study which enabled the Council in getting PL-480 funds for purchasing the necessary equipment for processing the data.

The Council is thankful to Dr. A.D. Taskar, Chief, Division of Biostatistics and Communication of the Council and his staff for processing these voluminous data and writing this comprehensive report.



# STUDIES ON GROWTH AND PHYSICAL DEVELOPMENT OF INDIAN INFANTS AND CHILDREN

## INTRODUCTION

Studies on growth and physical development of infants and children are important as they provide determinants of a nation's health. Appraisal of the progress of a country in the field of health can be made from time to time with the help of such studies. Measurements of height and weight are still the simplest and one of the reliable means by which the progress of a normal child is evaluated and gross abnormalities detected even when no other clinical sign of illness is manifest.

Numerous attempts were made in the last four decades or more to utilize the data on body measurements for the evaluation of nutritional status and the general health of children in this country. But no concerted efforts were made to establish norms of height, weight and other anthropometric measurements for age, rate of growth and pattern of physical development. Certain isolated observations were on record, but their significance was difficult to judge for lack of accurate background information and uniformity in the methods adopted in obtaining them. In some of the earlier surveys, children were measured sometimes with clothing and shoes on and sometimes without. Frequently, weight measurements were taken with a spring type weighing machine, not a very dependable instrument. No uniform method was often adopted in expressing the age. Some gave the age to the nearest birthday while others gave it as it stood on the last birthday (Someswara Rao, 1961). Inferences, based on this information, showed deviations from the accepted European standards and were at times put down as racial differences without critically examining the factors which were likely to influence them.

To overcome these fallacies of inference and to establish the badly needed standards of reference of growth and development of Indian infants and children, and to study the factors influencing growth, the need to carry out further studies on an accurate and scientific basis was acutely felt. The Indian Council of Medical Research, New Delhi, sponsored the present nation-wide cross-sectional study on the recommendation of the Working Party constituted for the purpose. This study was carried out during the years 1956 to 1965.

### Object of the study :

The main object of the study was to collect suitable data for the construction of reference standards of growth and physical development of Indian infants and



children, aged 1 through 21 years, for the country as a whole as well as for each of the States of India. In addition, influence of income, socio-economic status, religion and residence (urban/rural) on growth and physical development of Indian infants and children was proposed to be studied.

#### **Plan of the study :**

The plan of the study envisaged coverage of as many representative areas of the country as possible. The work was to be entrusted to several Units, each of which was to have a group of contiguous areas under its jurisdiction. Uniform sampling procedures and methodology were to be adopted. The urban/rural ratio of coverage was to be 5 : 3. Requisite training was to be imparted to the staff of the Study Teams, whose composition is detailed elsewhere, before commencing their work. The equipment was to be periodically recalibrated to ensure uniformity of measurements. Standardised equipment and techniques were to be used. Every child was to be examined by the medical officer to certify as a normal child for inclusion in the study. Six anthropometric measurements, viz. standing height, sitting height, weight, bicristal diameter, head and chest circumferences, were selected for assessment of growth.

Puberty signs such as growth of pubic, axillary, chin, cheek and upper lip hair and change of voice in boys ; and growth of pubic and axillary hair, breast areola raised and breast tissue enlarged in girls, were to be recorded by physical examination. Attainment of menarche was to be ascertained by interrogation.

Demographic and environmental data were to be collected for every child. Emphasis was to be placed on verification of age with the help of official records or authentic sources. It was decided that at least one out of every 20 children should have its age verified by the social worker. A standardised proforma was to be evolved for the study.

#### **Location of Units and coverage of areas :**

The Council established seven Units in different parts of the country to carry out the study. The location of these Units, and the areas allocated to each, are mentioned below :

<i>Location</i>	<i>Areas</i>
1. Department of Anthropology, University of Lucknow, Lucknow.	States of Uttar Pradesh, Himachal Pradesh and Bilaspur District.
2. Department of Anthropology, University of Delhi, Delhi.	States of Delhi, Punjab, Kashmir and Rajasthan.



<i>Location</i>	<i>Areas</i>
3. Nutrition Research Laboratories, Hyderabad.	States of Madras, Kerala, Mysore and parts of State of Andhra Pradesh which were not covered by the Visakhapatnam Unit.
4. Department of Paediatrics, Andhra Medical College, Visakhapatnam.	The coastal districts of the State of Andhra Pradesh as far south as East Godavari, and the whole of the State of Orissa.
5. Department of Medicine, Medical College, Nagpur.	Marathi speaking areas of the State of Madhya Pradesh and Marathwada Region of the Hyderabad State as it stood before the States Reorganisation Committee Report, 1956.
6. Department of Paediatrics, Sassoon Medical College, Poona.	Marathi speaking districts of the State of Bombay as they stood before the States Reorganisation Committee Report 1956.
7. Department of Obstetrics and Gynaecology, G.R. Medical College, Gwalior.	Bhopal State and contiguous areas (erst-while Madhya Bharat) as they stood before the States Reorganisation Committee Report, 1956.

Two teams operated in each of the first three Units, and one each in the remaining four. Each team was expected to examine 20,000 eligible infants and children, aged 1 through 21 years, in the area under its jurisdiction.

#### **Definition of an eligible child :**

An eligible child was defined as an apparently normal infant or child, aged 1 through 21 years, who was resident of the area in a sense that it had spent the major part of its life there. Certain children, who showed the following signs and symptoms, were classified as abnormal, and were eliminated from the study :

- (a) Those who had been bedridden for more than 15 days during the six months preceding the date of examination, and those who suffered from any ailment in the preceding one month.
- (b) Those with physical deformities or clinical evidence of endocrine dysfunction.
- (c) Those with any chronic systemic disease of the organs as listed in the proforma.

- (d) Those showing the following signs of malnutrition, *e.g.* Bitot's spots, keratomalacia, glossitis or angular stomatitis, marked anaemia and stigmata of past rickets.

Children with chronic conjunctivitis, trachoma, history of tonsillitis, skin infections, etc., were not eliminated, but such conditions, when observed, were noted clearly under the 'Remarks' column before the measurements were obtained.

#### **Sampling design :**

The primary sampling unit was an eligible infant or child. All the Units adopted a uniform sampling design, the details of which are mentioned in Annexure 'A'.

Different sampling frames were employed for urban and rural areas. The sampling frame for rural area was constructed from the list of villages from the area allocated to each Unit. Village was defined as an area having population cluster of less than 5,000. Villages were stratified into two categories according to the size of population. All eligible children in the selected villages were included in the sample. Children were asked to assemble in the village school or some central place in the village for clinical examination and body measurements.

In urban areas, the sampling frame for children going to school was a list of schools in the city or town. A representative sample of schools was selected and from each school a random sample was drawn. Pre-school and non-school going children were also included and were examined in their homes.

#### **Composition of study team :**

Each study team consisted of a medical officer, an anthropologist, a social worker, a statistical assistant, an office assistant and an attendant. Clinical appraisal of the child was made by the medical officer while all measurements were taken by the anthropologist. Demographic and environmental data were recorded by the social worker by paying home visits. Verification of age of the children, included in the study, was entrusted to the social worker. Selection of the sample and compilation of the data were done by the statistical assistant, and the rest of the staff carried out administrative duties.

#### **Methodology :**

All measurements were obtained under standard conditions. Standard equipment and standard techniques were used for the purpose. The details are given in Annexure 'B'.



### **Training of Staff :**

The staff recruited up to the middle of 1957 was trained at the Department of Anthropology, Lucknow University, Lucknow, Uttar Pradesh, where a Seminar on Growth Studies was held in the month of September, 1957. The training laid stress on uniform organisational, procedural and methodological techniques in respect of medical, anthropometrical, sociological and statistical aspects. The staff recruited thereafter was given similar training at the Nutrition Research Laboratories, Coonoor, Tamil Nadu, in the middle of 1958. Later in 1961, the statistical assistants from all the Units were given training at the All-India Institute of Hygiene and Public Health, Calcutta, West Bengal, in coding the data uniformly. They were given instructions regarding classification of data (Annexure 'C').

### **Equipment :**

Each team was supplied with a lever-actuated weighing-scale, an anthropometer, an infantometer, a steel tape, a pelvimeter and proformae.

### **Proforma :**

Separate proformae, in two different colours, were drawn up for boys and girls, setting up the information to be collected in four parts, namely, demographic and environmental data, body measurements, puberty signs and medical examination (Annexure 'B').

### **Recording of Age :**

The actual age of the child was recorded in years and months. Information on age was obtained either from the School Register or from parents or both. This was termed as 'stated age'. Attempts were made to verify the accuracy of the stated age from authentic evidence provided by horoscopes, household records, baptism certificates and Birth Registers maintained in hospitals, and municipal and local board offices. This was termed as 'Verified age'.

### **Execution of the Plan :**

Every Unit started functioning before the end of 1957. Before each team, attached to a Unit, commenced work in a particular area in a district, letters were addressed to the District Magistrate, District Inspector of Schools, Tehsildars, Block Development Officers and Secretaries of District Boards, seeking their co-operation in the study. In the schools, a separate place of work was assigned to the team for conducting the medical examination and for taking the measurements. The Social Worker paid home visits to assess the socio-economic and environmental conditions, and to ascertain the accuracy of the reported age. Measurements of children not going to school, were taken at their homes.

### Methods of assessment of growth and physical development :

Growth of children is usually assessed by three different methods. The first method relies on mean values and the standard deviations of anthropometric measurements. Such a method of assessment gives a good indication of just how a given child stands in relation to the normal group. The limits determined by the mean and 'plus and minus' one or more standard deviations are considered as normal limits. Assessment of the second method is by means of percentiles. The order of the percentile indicates the position which a measurement would hold in a typical series of 100 (100 per cent). Thus the 5th percentile gives the value for the fifth child of a group of 100. Four children will be smaller in the measurement under consideration and 95 will be above. At the fiftieth percentile, an equal number of children will be smaller or larger than the measurement. Data presented on percentiles give a clear idea of a child's development. Children whose weight and height measurements which fall in different percentile groups, shift percentile groups or lie near to or fall outside the 5th and 95th percentiles, are reviewed for growth abnormalities. Occasional sharp deviations or gradual but continuous shifts from one percentile position to another call for investigations as to their causation.

Both the methods of assessment are of value in estimating the position of a child relative to a large group of children of the same age and sex, and lead to the same conclusion when the statistical frequency distributions of the measurements are normal. But when sequential measurements are made on a child, the percentile method is more useful than the first method.

Thirdly, it is also possible to assess the growth of a child by cross-tabulating the weight by height data by age. Given the age and height of a child, the weight may be ascertained from the table and compared with its actual weight.

The usual method of assessing the age of attaining a puberty sign is by direct questioning. It has now been generally recognised that this method is liable to errors of response and recall bias. Therefore, it was suggested to note down whether the individual had attained the signs or not and to use Probit Transformation (Tanner, 1961). Probit transformation was applied to the percentage incidence at each age for the analyses of the present data. The mean ages and their standard deviations were worked out for each of the puberty signs.

### Processing of the data :

The data were processed in three stages. In the first stage, the original coded proformae were collected from the Units by the Division of Biostatistics and Communication of the Indian Council of Medical Research, New Delhi. As the work involved in the statistical analyses of these enormous data was stupendous, it was considered desirable to process the data on an electronic computer. As the



coded proformae contained many columns with multiple-punches, the whole Card Design had to be modified to make it suitable for computer processing, without sacrificing much of the original information. Transcribing the data, according to the new card design, involved considerable amount of time and labour.

The Council was able to procure basic equipment and buy the computer time required through the collaboration of the National Centre for Health Statistics, Department of Health, Education and Welfare, U.S.A. The necessary financial assistance was obtained through the PL-480 Funds.

In the second stage of processing the data, means and standard deviations of the anthropometric measurements with the actual number of infants and children measured in each age-group, both for the whole country and for different States, were calculated on electronic computer at the Computer Centre, Indian Institute of Technology, Kanpur (Uttar Pradesh). The frequencies as well as percentages of the children attaining puberty signs, were also computed at the same Centre.

In the third stage of processing, percentiles of the anthropometric measurements were computed separately for sex and single year of age, and detailed statistical analyses were done to study differences in the mean values of the anthropometric measurements among States of India, religious groups, socio-economic classes and per capita income groups. Differences due to residence (urban/rural) were similarly tested. Probit analyses were done to find out the mean ages of children at the appearance of various puberty signs under various heads mentioned earlier.

### **Presentation of data :**

Means and standard deviations with actual number of infants and children, aged 1 through 21 years, measured and selected percentiles (5th, 10th, 25th, 50th, 75th, 90th, and 95th) of the anthropometric measurements are presented by sex and stated age for the country as a whole. Similar tables on means and standard deviations are presented by sex and verified age for the whole country. Cross-tabulation of the mean values and standard deviations has been done for residence (urban/rural), religion, socio-economic status, per capita income and region (States of India) for stated age. In a similar manner, mean ages at attainment of puberty signs are also cross-tabulated. Tables of mean weight, and selected percentiles of weight distribution, are presented at successive grouped height intervals by sex and single year of age.

### **Limitations of the study ;**

Some of the limitations observed in this study are listed below :—

1. The number of children, to be covered by each Unit, was fixed in advance, irrespective of the population of the area under its jurisdiction.

2. In the States of Delhi and Orissa, data from rural areas were not available at the time of analysis.
3. In urban areas, a greater proportion of girls was covered as compared to rural areas, giving a ratio exceeding 5 : 3.
4. Uniformity in the collection of data was affected to a certain extent due to frequent changes in the field staff.
5. Head and Chest circumferences were not measured in all the children.
6. In some of the older children, particularly in girls, all the puberty signs could not be recorded.

In spite of the foregoing limitations, the data are important in their own right. This was the first survey covering a large part of India. Six anthropometric measurements and six puberty signs were recorded. Means have been given along with their standard deviations. Tens of thousands of children were included in the study and they were selected to constitute sample from various States of India, different religions and diverse socio-economic and urban/rural background. The present data provide standard values of the anthropometric measurements of Indian children. Thus a long-felt need has been fulfilled.



## DESCRIPTION OF DATA

The total number of children covered in the study was 1,27,866 comprising 2,766 infants and 1,25,100 children aged 1 through 21 years. Due to some practical difficulties, the target figure of 2,00,000 could not be attained.

In this Section, information on the number of children covered in the study by sex, age, region (States of India), residence (urban/rural), religion, socio-economic status and per capita income, is given.

### Sex and age :

The sex ratio in the study was 832 females to 1000 males. The percentages of infants were 2.1 and 2.2 in boys and girls, respectively. From Table A, it could be seen that up to the age of 12 years, relatively higher proportion of girls was examined. But for older ages, the situation was reversed.

**TABLE A**  
Percentage distribution of children by sex and age

<i>Age in years</i>	<i>Boys</i>	<i>Girls</i>	<i>Both sexes</i>
Less than 1 year	2.1	2.2	2.2
1 +	4.2	4.6	4.4
2 +	4.1	4.5	4.2
3 +	4.4	5.1	4.7
4 +	4.9	5.1	5.0
5 +	5.0	5.5	5.2
6 +	5.5	6.2	5.9
7 +	5.3	6.2	5.7
8 +	5.7	6.0	5.8
9 +	5.5	6.1	5.8
10 +	5.8	6.3	6.0
11 +	5.5	5.9	5.7
12 +	5.8	5.9	5.9
13 +	5.5	5.5	5.5
14 +	5.2	5.0	5.1
15 +	5.2	4.6	4.9
16 +	5.0	4.4	4.7
17 +	4.6	3.6	4.2
18 +	4.3	2.9	3.7
19 +	3.6	2.5	3.1
20 +	2.5	1.6	2.1
21 +	0.3	0.3	0.2
All ages	100.0	100.0	100.0

Attempts were made to verify the age as stated earlier in the plan. The age was verified in 19,448 boys and 15,118 girls, giving a percentage of about 27, and this far exceeded the percentage of 5 as proposed in the plan.

It was further observed that between 1 and 6 years of age, around 1/3rd of the children, and above that age around 1/4th of the children, had their ages verified.

#### Region (States of India) :

The breakdown of the data according to region (States) is given in Table B. It could be seen that the States of Assam, Bihar, Gujarat, West Bengal and some parts of the State of Maharashtra and the Union Territories, except Delhi, were not represented in the study. The State of Mysore and several parts of the State of Andhra Pradesh could not be covered even though they were included in the original plan. Therefore, the data are not representative of the whole country.

TABLE B

#### Distribution of children by sex and region (States of India)

Sl. No.	Region	Number of children		
		Boys	Girls	Both sexes
1.	Andhra Pradesh	4006	3343	7349
2.	Delhi	1625	1389	3014
3.	Jammu & Kashmir	2540	1984	4524
4.	Kerala	3174	2848	6022
5.	Madhya Pradesh	2985	2319	5304
6.	Madras (Tamil Nadu)	4606	3969	8575
7.	Maharashtra			
	(i) Nagpur	7352	7100	14452
	(ii) Poona	10383	9766	20149
8.	Orissa	2440	1797	4237
9.	Punjab (including Haryana)	5216	4815	10031
10.	Rajasthan	5502	3673	9175
11.	Uttar Pradesh	19975	15059	35034
	(including some parts of Himachal Pradesh)			
All States		69804	58062	1,27,866



### Residence (urban/rural) :

Urban/rural sex-ratios are given in Table C below. It was observed that a greater proportion of girls was covered in the urban areas as compared to the urban : rural ratio of 5 : 3 for each sex.

TABLE C

Number and percentage of children by sex and residence (urban/rural):\*

Residence	Boys		Girls		Both sexes		Sex ratio
	Number	Percentage	Number	Percentage	Number	Percentage	
Urban	44,285	64.0	39,413	68.1	83,698	65.8	890
Rural	24,959	36.0	18,454	31.9	43,413	34.2	749
Total	69,244	100.0	57,867	100.0	1,27,111	100.0	856

\*Information in respect of 755 children was not available.

### Religion :

The data were classified according to five major religions of India. Percentage distribution of children covered by sex and religion is given in Table D.

TABLE D

Number and percentage distribution of children by sex and religion

Religion	Boys		Girls		Both sexes	
	Number	Percentage	Number	Percentage	Number	Percentage
Hindu	50013	72.3	47001	80.9	103984	81.3
Muslim	6727	9.6	4965	8.6	11688	9.1
Sikh	1623	2.3	1651	2.8	3274	2.6
Jain	830	1.2	790	1.4	1620	1.3
Christian	1505	2.2	2185	3.8	3690	2.9
Tribes & Others	2140	3.1	1470	2.5	3610	2.8
All Religions	69804	100.0	57867	100.0	1,27,681	100.0

### Socio-economic status :

Table E gives the distribution of children according to socio-economic classes as defined in Annexure C. Fifty-one per cent of boys and 41 per cent of girls belonged to socio-economic Class VI (lowest). Only 2 per cent of children came from socio-economic Class I (highest). Preponderance of girls relative to boys was noted in Classes I to IV.

**TABLE E**  
**Number and percentage distribution of children**  
**by sex and socio-economic status\***

<i>Socio-economic class</i>	<i>Boys</i>		<i>Girls</i>		<i>Both Sexes</i>	
	<i>Number</i>	<i>Percentage</i>	<i>Number</i>	<i>Percentage</i>	<i>Number</i>	<i>Percentage</i>
I (Highest)	1041	1.6	1458	2.8	2499	2.1
II	2458	3.8	2944	5.7	5402	4.6
III	9067	14.0	9908	19.1	18975	16.3
IV	8644	13.3	9096	17.6	17740	15.2
V	10399	16.0	7213	13.9	17612	15.1
VI (Lowest)	33238	51.3	21168	40.9	54406	46.7
All classes	64,847	100.0	51,787	100.0	1,16,634	100.0

\*Information on 11,232 children was not available.

#### Per capita income:

The distribution of boys and girls according to per capita income is shown in Table F. Over three-fourths of the children belonged to families in which the per capita income was less than Rs.400 per annum (Groups I to IV). It was observed that there was reversal of sex ratios with the rise in the per capita income.

**TABLE F**  
**Number and percentage distribution of children**  
**by sex and per capita income\***

<i>Per capita income-group</i>	<i>Boys</i>		<i>Girls</i>		<i>Both sexes</i>	
	<i>Number</i>	<i>Percentage</i>	<i>Number</i>	<i>Percentage</i>	<i>Number</i>	<i>Percentage</i>
I (Rs. 50 and under)	3595	5.9	2387	4.9	5982	5.5
II (Rs. 51 to Rs. 100)	10764	17.8	6960	14.3	17724	16.2
III (Rs. 101 to Rs.200)	18682	30.9	13105	27.0	31787	29.1
IV (Rs. 201 to Rs 400)	15628	25.8	13444	27.6	29072	26.6
V (Rs. 401 to Rs. 600)	5102	8.4	5149	10.6	10251	9.4
VI (Rs. 601 to Rs. 900)	3541	5.9	3846	7.9	7387	6.8
VII (More than Rs. 900)	3226	5.3	3746	7.7	6972	6.4
All groups	60,538	100.0	48,637	100.0	1,09,175	100.0

\*Information in respect of 18691 children was not available.



## LIST OF GRAPHS

	<i>Page</i>
1. Mean bicristal diameters of children aged 1 through 18 years by sex and single year of age ...	14
2. Mean head circumferences of children aged 1 through 18 years by sex and single year of age ...	16
3. Mean chest circumferences of children aged 1 through 18 years by sex and single year of age ...	17
4. Mean standing heights of children aged 1 through 18 years by sex and single year of age ...	18
5. Mean sitting heights of children aged 1 through 18 years by sex and single year of age ...	19
6. Mean weights of children aged 1 through 18 years by sex and single year of age ...	20
7. Selected percentiles of the bicristal diameter distribution of children aged 1 through 18 years by sex and single year of age ...	21
8. Selected percentiles of the head circumference distribution of children aged 1 through 18 years by sex and single year of age ...	22
9. Selected percentiles of the chest circumference distribution of children aged 1 through 18 years by sex and single year of age ...	23
10. Selected percentiles of the standing height distribution of children aged 1 through 18 years by sex and single year of age ...	24
11. Selected percentiles of the sitting height distribution of children aged 1 through 18 years by sex and single year of age ...	25

12. Selected percentiles of the weight distribution of children aged 1 through 18 years by sex and single year of age	...	26
13. Mean head and chest circumferences of children from birth to 4 years of age by sex and age (3 months interval up to 1 year of age and 1 year interval up to 4 years of age)	...	27
14. Percentage of children aged 1 through 18 years in each specified height (standing) group by sex and single year of age	...	29—30
15. Percentage of children aged 1 through 18 years in each specified weight group by sex and single year of age	...	31—32



## EVALUATION OF DATA

Tables 1 to 81 give the data for infants and children aged 1 through 21 years. These data have been evaluated separately for infants and children. In view of the erratic nature of the distribution of measurements after the age of 18 years, the comments after the age of 18 years have been restricted to the age range 1 to 18 years. In presenting the Tables, 'Plus (+)' sign affixed to each year of age indicates the interval between a year of age and the next. For example '7+' includes all children aged 7 years and above, excluding those who have completed 8 years of age.

Tables 82 to 89 present the data on the mean ages at attainment of puberty signs for boys and girls.

### Infant growth :

The growth of an infant since birth shows a regular increase in all the anthropometric measurements. In this study, this was indicated by the increase in the average values of the measurements.

The girls were shorter and lighter than boys. Boys had a broader chest and a larger head-circumference. The excess in the bicristal-diameter of boys was marginal. The pattern persisted throughout infancy.

The standard deviations appeared to increase with age and these were lower in infants than in children aged 1 through 18 years for all the measurements, except bicristal diameter and head circumference. The measurements appeared to be more compact in the later months of infancy than in the earlier months as compared by the co-efficient of variation.

It was interesting to note that, on an average, the growth of infants during the first six months after birth was more rapid as compared with their growth in the later months.

### Growth of children aged 1 through 18 years :

Data collected for this study have been presented for the whole country according to sex and single year of 'stated age'. In addition, the data relating to 27 per cent of the children, for whom the age could be verified, have been presented according to sex and single year of 'verified age' (Tables 76 to 81).

The mean values of all the measurements for single year of stated age were in close agreement with those obtained for verified age of the children. The

standard deviations of the two series for every measurement exhibited trivial differences.

The pattern of growth of children, aged 1 through 18 years, is sought to be delineated in the following sections separately for each measurement. While commenting upon the variations in the average values of measurements of different children in single year of age, it must be borne in mind that this is a cross-sectional study.

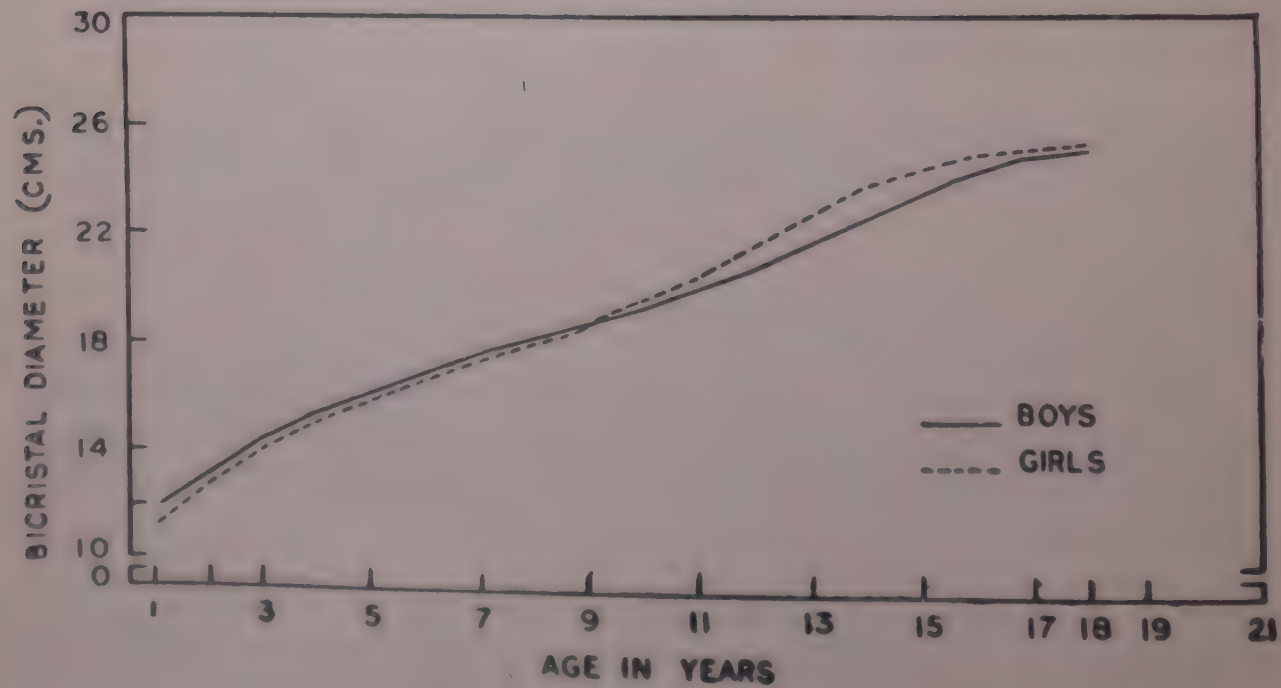
Anthropometric Measurements

Bicristal Diameter :

TABLE G  
Range of means and standard deviations (S.D.) by sex and age-group

Age-group (years)	Range							
	Boys				Girls			
	Mean (cm.)		S.D. (cm.)		Mean (cm.)		S.D. (cm.)	
	Min.	Max.	Min.	Max.	Min.	Mix.	Min.	Max.
1—5	12.1	16.4	1.26	1.33	11.7	16.3	1.25	1.40
6—11	17.2	20.4	1.37	1.56	17.0	20.9	1.56	2.08
12—18	21.1	25.4	1.62	1.99	22.0	25.5	1.80	2.44

Graph 1





The bicristal diameter (Table 1, Graph 1) increased steadily with age, the trend being almost the same both for boys and girls. The range was between 12.1 cm. and 25.4 cm. for boys and 11.7 cm. and 25.5 cm. for girls (Table G). However, for boys between 5 and 11 and above 15 years of age, on the average the increase was smaller than those below 5 years and between 11 and 15 years of age. For girls between the ages of 5 and 10 and above 14 years, on the average the increase was smaller than those below 5 years and between 10 and 14 years of age.

Initially the diameter of boys was slightly larger but later the girls overtook the boys at the age of 10 years (19.9 cm. and 19.8 cm. respectively) and maintained a higher level up to 18 years (25.5 cm. and 25.4 cm.), the excess being about 1 cm. between 12 and 15 years which was statistically significant.

The standard deviations increased steadily up to the age of 14 years for boys and 12 years for girls, the magnitudes being higher for the latter. Beyond these ages, there was a slightly decreasing trend.

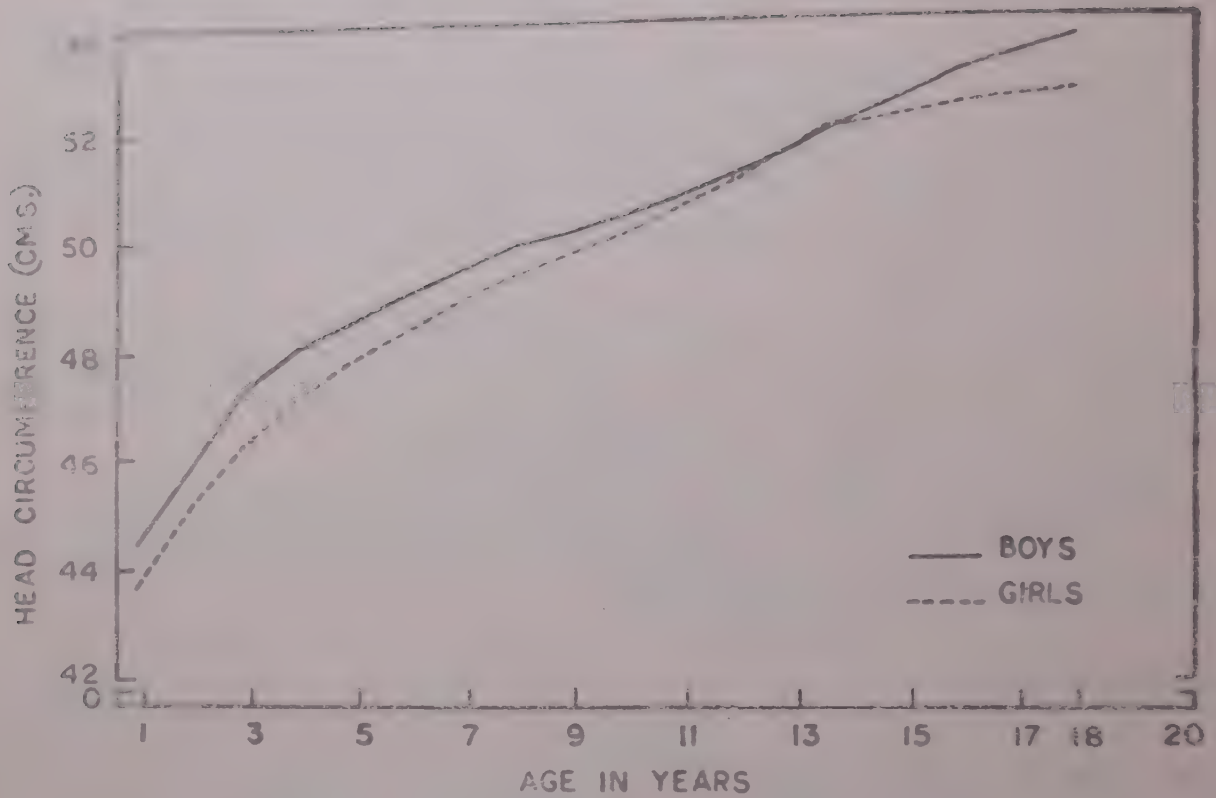
Head Circumference :

TABLE H  
Range of means and standard deviations (S.D.)  
by sex and age-group

Age-group (years)	Range							
	Boys				Girls			
	Mean (cm).		S.D. (cm).		Mean (cm).		S.D. (cm).	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1—5	44.4	48.5	1.70	3.68	43.6	47.8	1.71	1.84
6—11	49.0	50.7	1.65	1.76	48.3	50.6	1.61	1.93
12—18	51.1	53.5	1.71	1.90	51.0	52.5	1.61	2.00

The head circumference (Table 2, Graph 2) was found to increase steadily up to the age of 18 and 17 years for boys and girls, respectively, being 44.4 cm. up to 53.5 cm. for boys and 43.6 cm. up to 52.5 cm. for girls (Table H). The maximum increase in the mean values occurred between 1 and 5 years for both sexes. The boys had a larger mean circumference relative to the girls, except during the ages 13 and 14 years when girls caught up with the boys. The sex difference in children aged 3 and 4 years was about 1 cm., which was statistically significant.

Graph 2



Chest circumference :

TABLE I

Range of means and standard deviations (S.D.)  
by sex and age-group

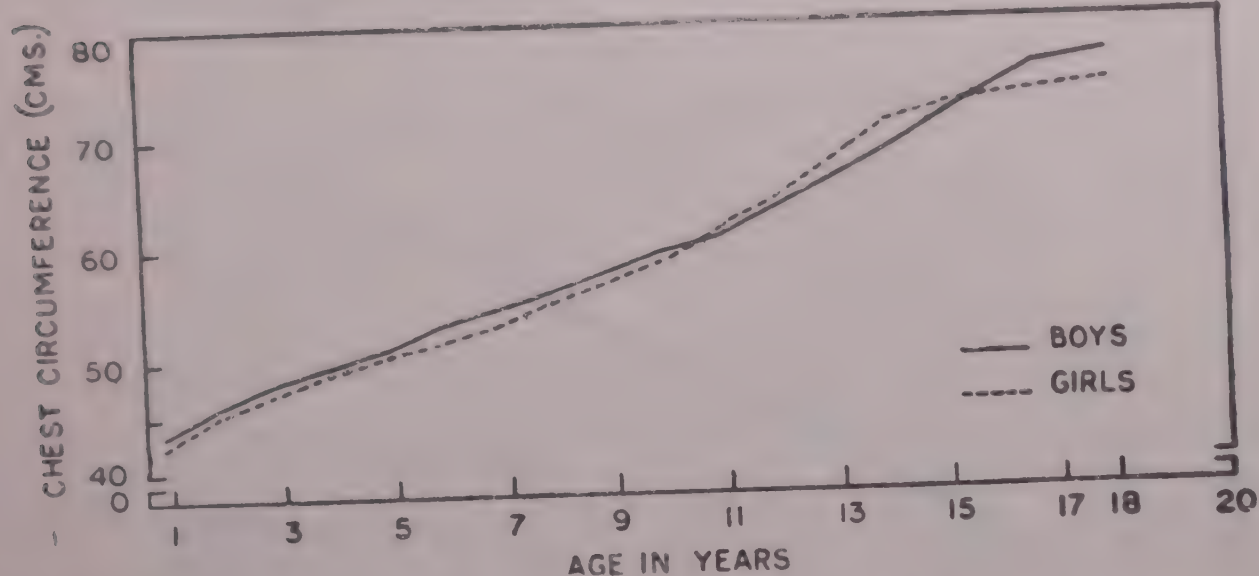
Age-group (years)	Range							
	Boys				Girls			
	Mean (cm.)		S.D. (cm.)		Mean (cm.)		S.D. (cm.)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1-2	43.1	50.8	4.29	5.45	42.3	50.1	3.17	3.95
3-11	52.5	60.4	4.81	6.31	51.3	60.7	4.64	5.54
12-18	61.9	70.5	4.79	8.50	63.4	73.8	6.46	8.15

The measurements of chest circumference (Table 3, Graph 3) were recorded with one stationary and one rotating and the mean of these two measurements



represented the chest circumference. The chest circumference increased steadily with age up to 10 years and thereafter the mean values increased steadily. The

Graph 3



range was 43.3 cm. to 76.5 cm. for boys and 42.3 cm. to 73.8 cm. for girls (Table I). During the pubertal period 11 to 15 years the girls overtook the boys. The maximum sex difference during pubertal period was 2.4 cm. at the age of 14 years. For all the ages, the sex difference was not statistically significant.

The variability of mean values increased with age. These values were more consistent for girls than for boys as judged by the co-efficients of variation.

Standing height :

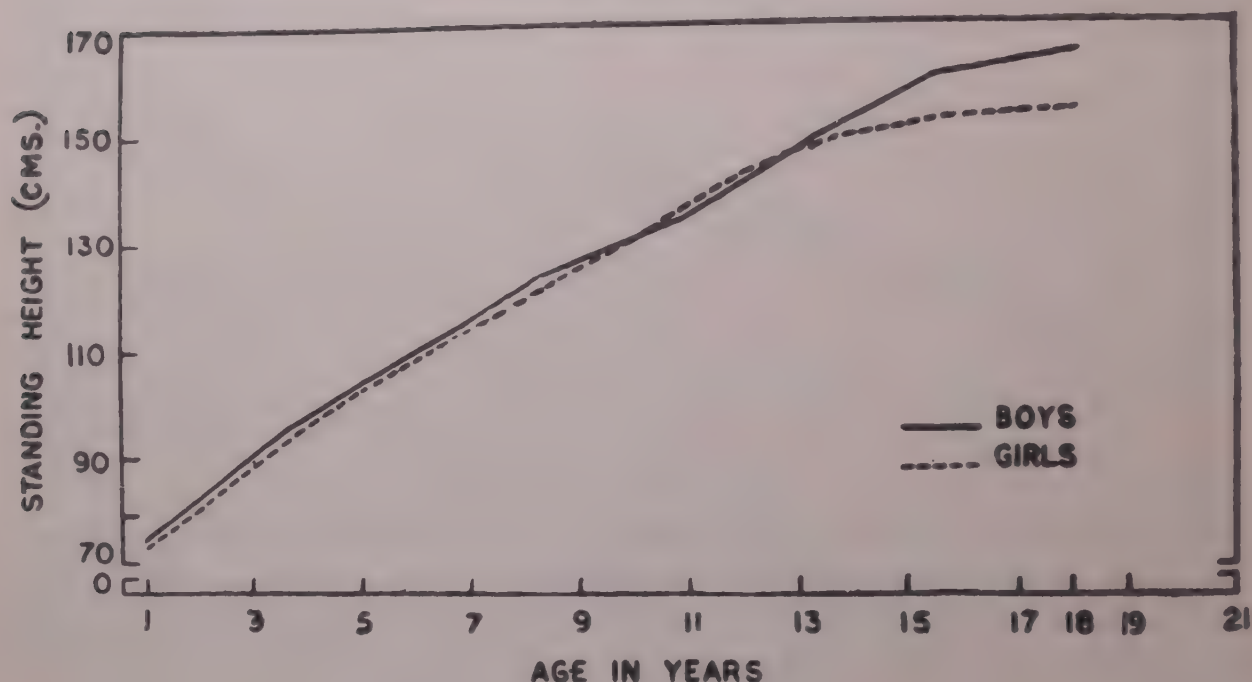
TABLE J

Range of means and standard deviations (S.D.) by sex and age-group

Age-group (years)	Range							
	Boys				Girls			
	Mean (cm.)		S.D. (cm.)		Mean (cm.)		S.D. (cm.)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1—5	73.9	102.1	5.28	8.08	72.5	101.4	5.20	7.35
6—11	108.5	133.4	7.15	9.99	107.4	133.6	7.53	9.49
12—18	138.3	163.1	9.57	10.45	139.2	151.7	5.89	10.24

That the height increases with the age of the child is commonplace. The ranges of means of standing height were (Tables J) 73.9 cm. to 163.1 cm. for boys

Graph 4



and 72.5. cm. to 151.7 cm. for girls. The boys were taller than girls at all ages save at 10, 11 and 12 years (Table 4, Graph 4). Between ages 1 through 9 years, sex differences in the mean values lay between 1 cm. and 2 cm. At 9 years of age, it started decreasing until the girls overtook the boys at 11 years. After the age of 12 years, the increase in the mean values for boys was more rapid than that for girls, and as a result at age 18 years the sex difference in the mean values was 11.4 cm. The sex difference was statistically significant after the age of 15 years. Both for boys and girls, the variability of the means increased steadily until the age of 12 years, and thereafter there was a steady decrease for girls, the trend for boys being irregular. For boys, the values of standard deviation were higher than those for girls after the age of 12 years.

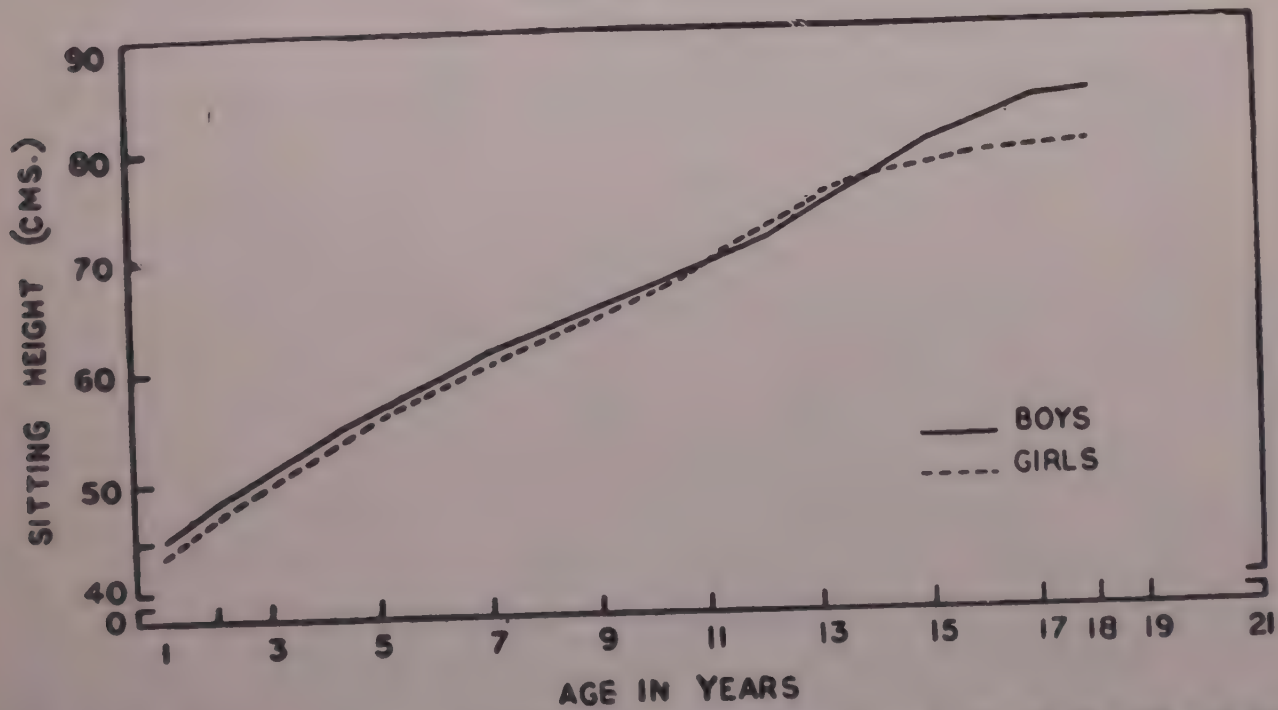


Sitting height :

TABLE K  
Range of means and standard deviations (S.D.) by sex and age-group

Age-group (years)	Range							
	Boys				Girls			
	Mean (cm.)		S.D. (cm.)		Mean (cm.)		S.D. (cm.)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1—5	45.4	57.0	2.92	3.35	44.2	56.0	2.87	3.45
6—11	59.4	69.5	3.33	3.97	58.4	69.5	3.46	4.18
12—18	71.4	84.4	4.09	5.40	72.2	79.2	3.47	4.48

Graph 5



The increase in mean values of sitting height (Table 5, Graph 5) with age conformed to that of other measurements, the boys displaying values higher than those for girls. The range for boys was 45.4 cm. to 84.4 cm. and for girls 44.2 cm. to 79.2 cm. (Table K). The sex difference was around 1 cm. up to the age of 9 years and vanished at ages 11 and 14 years, the girls overtaking boys at 12 and 13 years. As in the case of standing height, the sex difference was statistically significant between the ages of 15 and 18 years. The standard deviations of the mean values were parallel to those of standing height, the excess being in boys relative to girls.

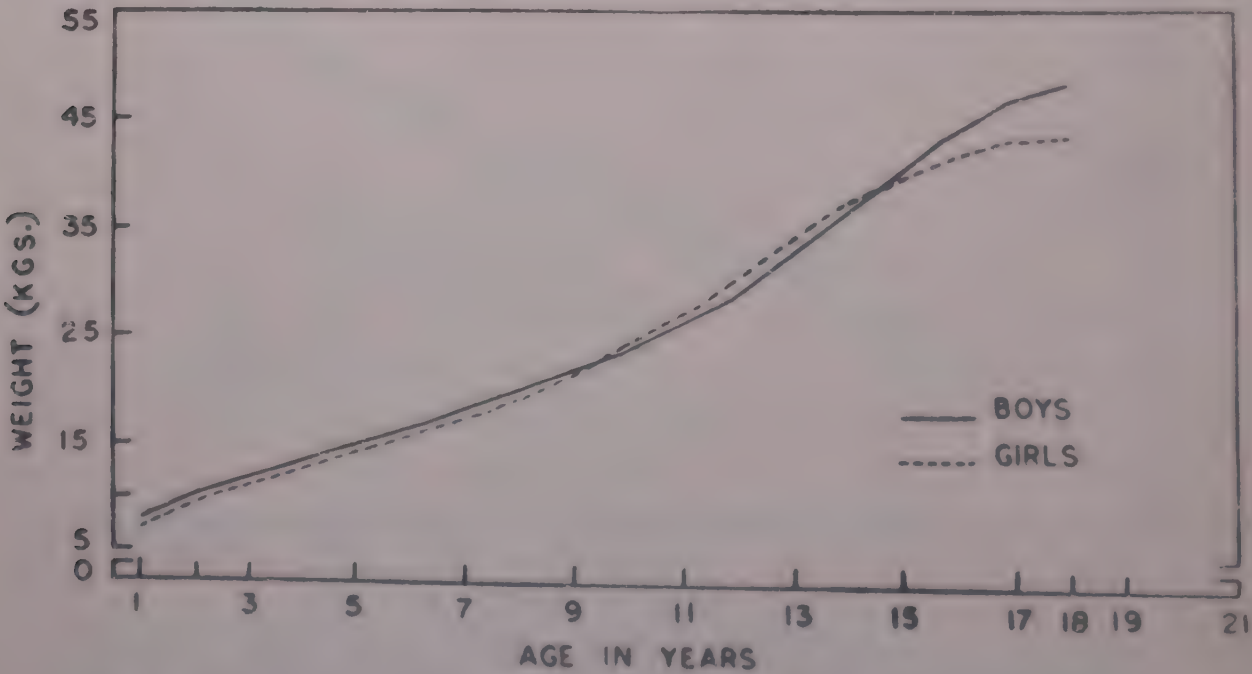
Weight :

TABLE L

Range of means and standard deviations (S.D). by sex and age-group

Age-group (years)	Range							
	Boys				Girls			
	Mean (cm).		S.D. (cm.)		Mean (cm.)		S.D (cm.)	
	Min.	Max.	Min.	Max.	Min.	Max	Min.	Max.
1—5	8.4	14.8	1.73	2.97	7.8	14.5	1.63	2.31
6—11	16.3	25.9	2.68	6.33	16.0	26.4	2.63	5.74
12—18	28.5	47.4	6.10	9.07	29.8	42.4	6.63	7.26

Graph 6

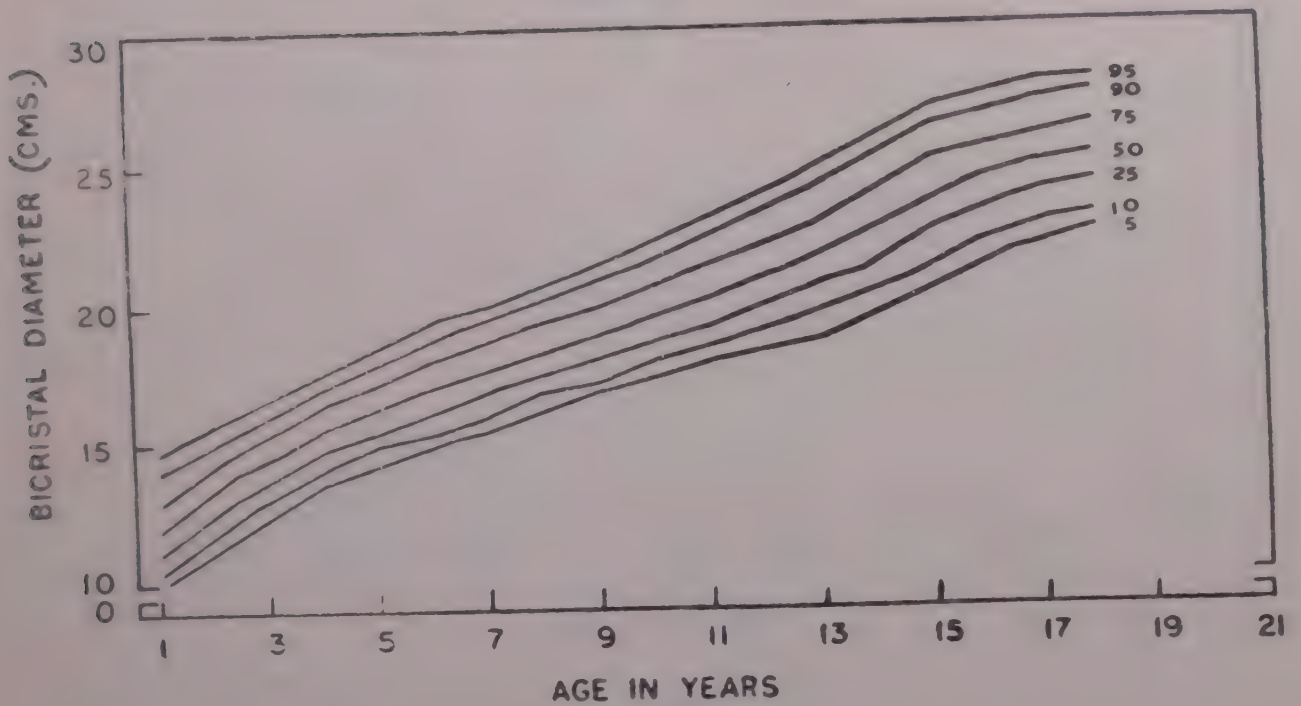
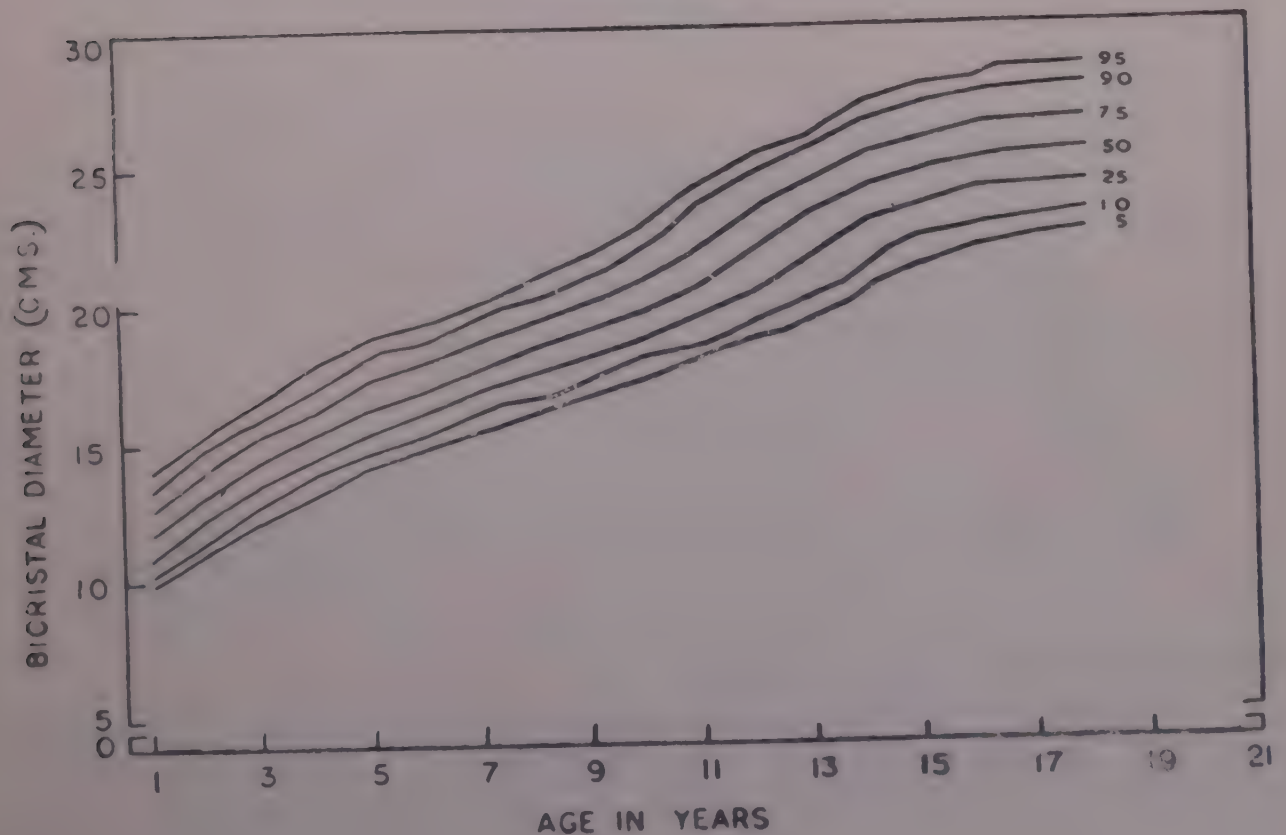


The mean weights of children (Table 6, Graph 6) increased with age, the range being 8.4 kg. to 47.4 kg. for boys and 7.8 kg. to 42.4 kg. for girls (Table L). The initial sex difference of 0.6 kg. at age 1 year was halved by the age of 5 years and this difference was maintained till the age of 9 years. Thereafter, the girls began to overtake boys at age of 10 years and continued to be heavier than them until 14 years of age, the maximum sex difference in the mean values being 1 kg. After the age of 15 years, the boys gave an indication of faster increase in weight than the girls as judged by the mean values. Between 15 and 18 years, the mean values for boys increased by about 7.8 kg. whereas for girls it was only about 3.6 kg.



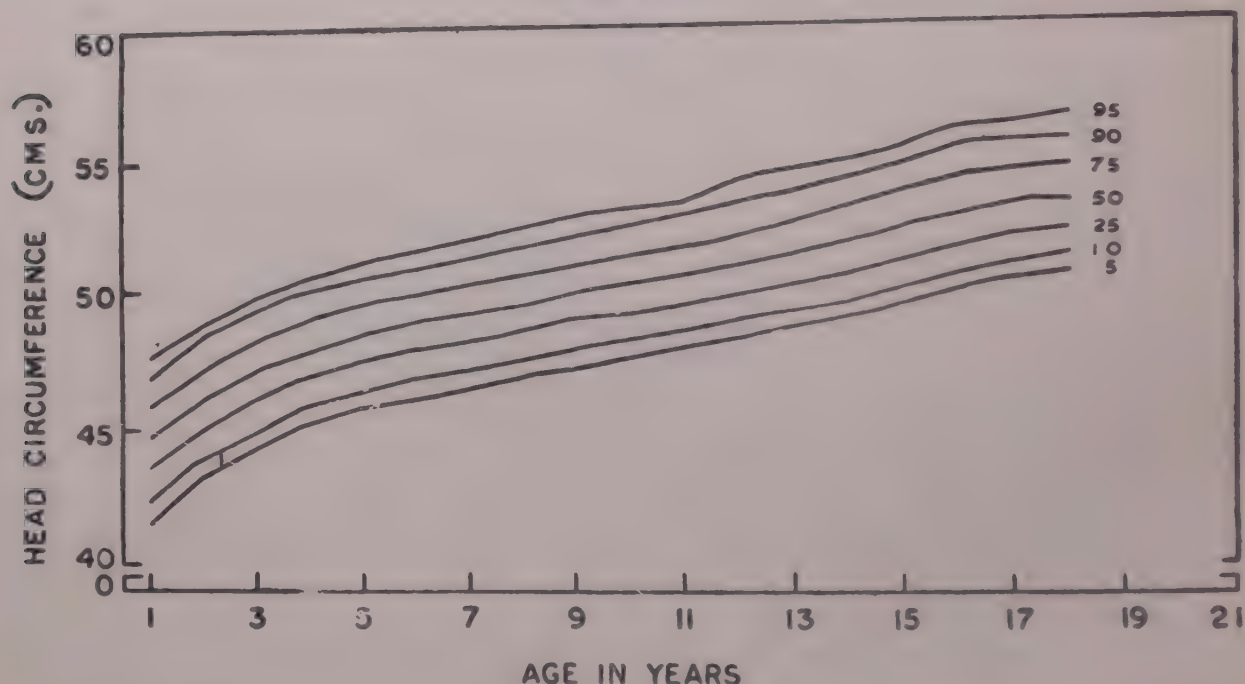
A total increase of 39.0 kg. in mean weights between ages 1 and 18 years in boys and 34.6 kg. in girls was observed. The variability of the mean weights increased steadily with age till the age of 15 years for both the sexes, and then decreased.

Graph 7

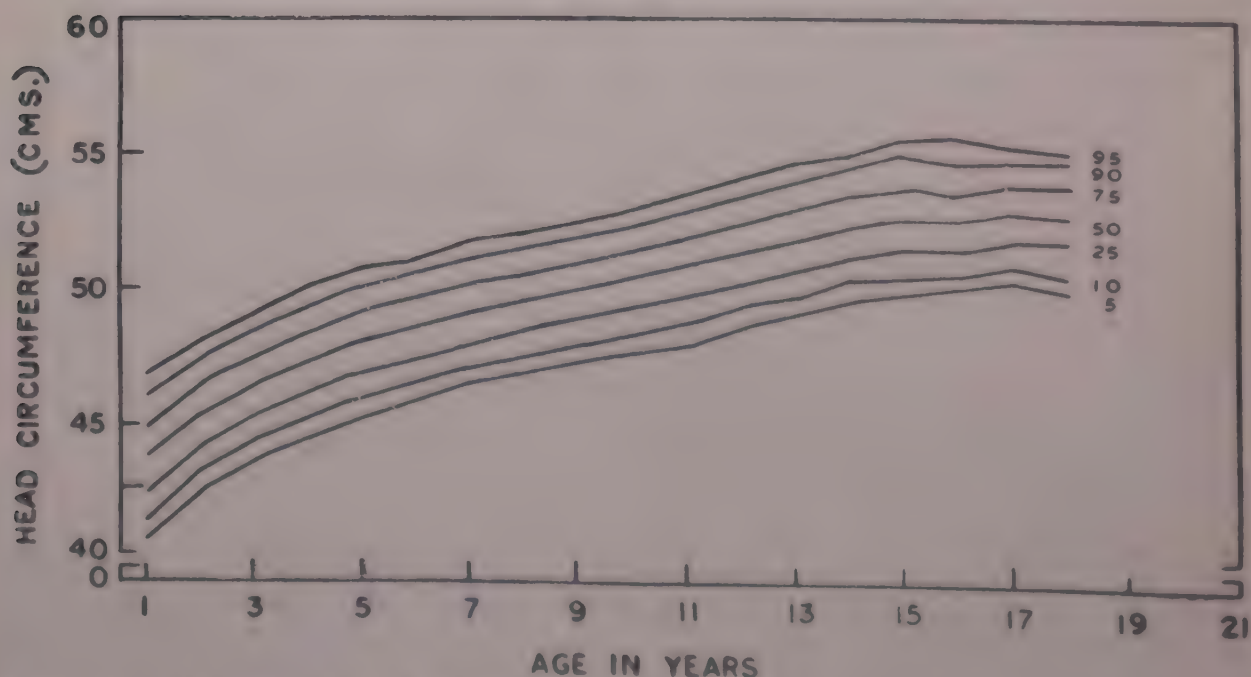
**BOYS****GIRLS**

Selected percentiles of the distributions of bicristal diameter, head and chest circumferences, standing and sitting heights and weights are given in Tables 7 to 12 and Graphs 7 to 12.

Graph 8  
BOYS



GIRLS



#### Relationship between height and weight :

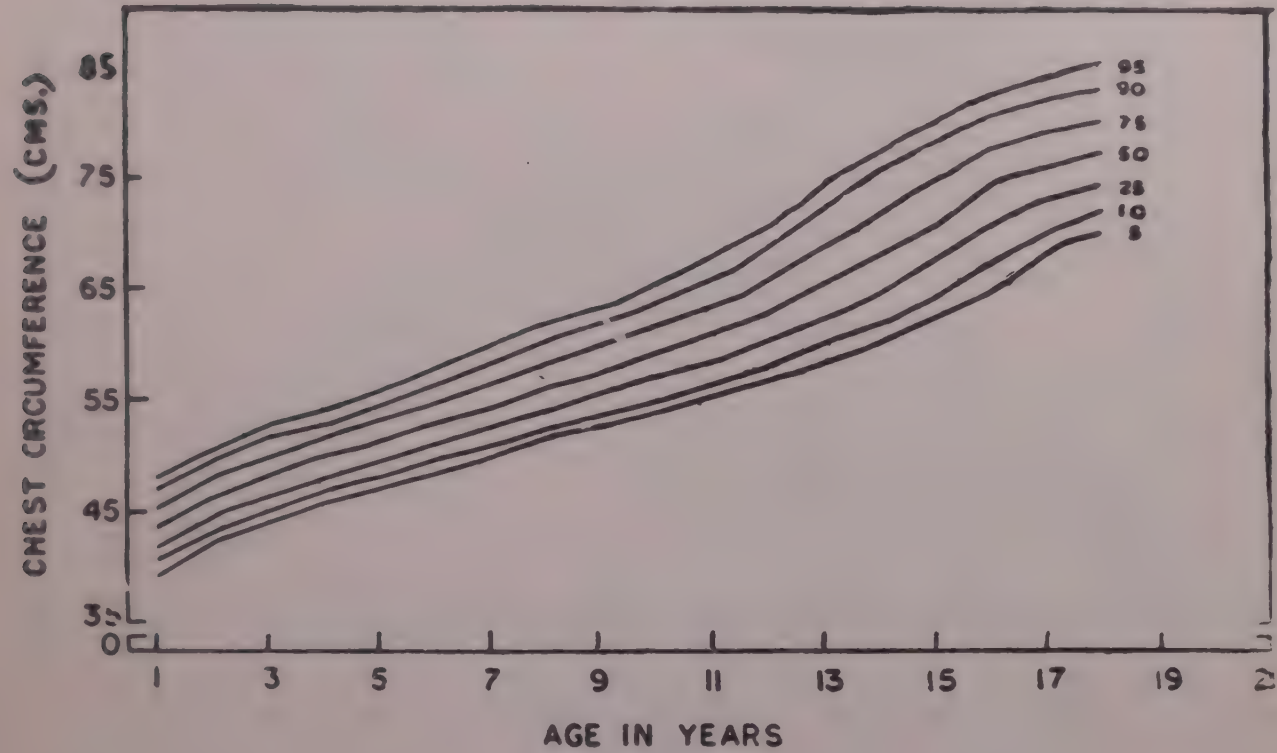
The pattern of increase of height and weight means differed. The height means (Tables 13 and 14) increase more steeply in the younger ages and the gradient reduced after the age of 8 years. As regards weight means the pattern was reversed. This was true for both boys and girls. Mean weights are tabulated



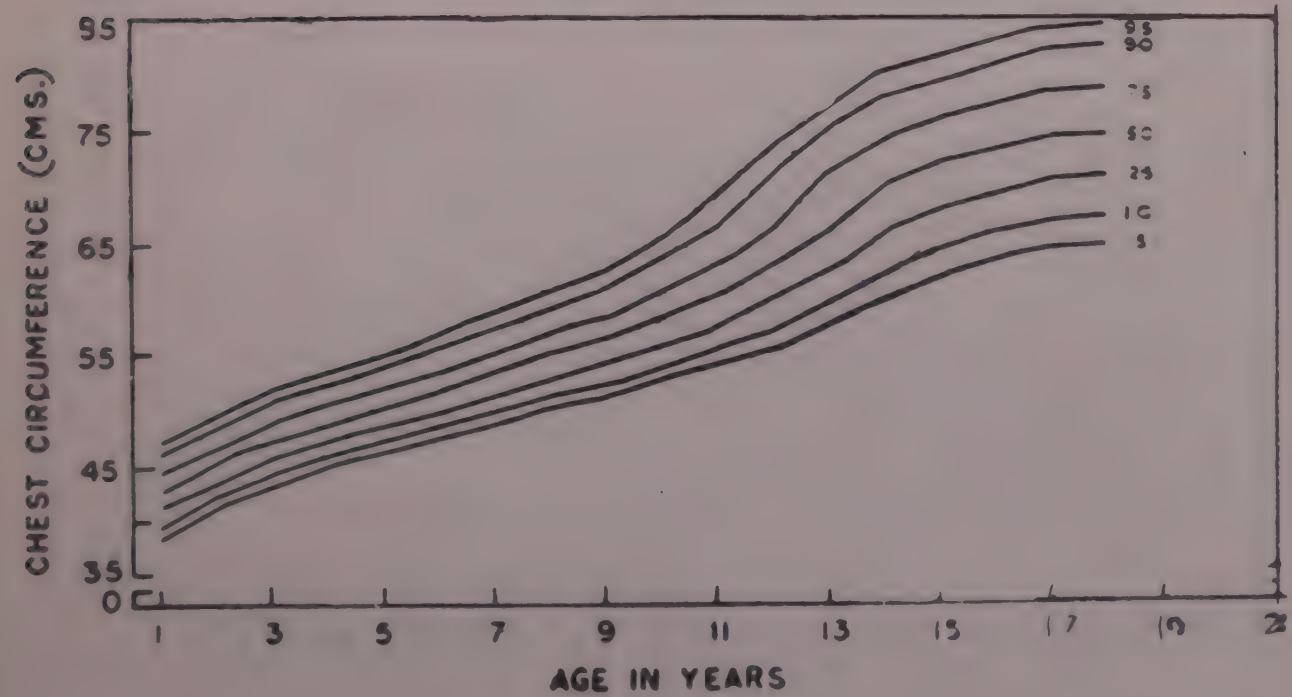
in the tables for height groups of 5 cm. width. For boys, the range of weight in the height group 140-144.9 cm. occurring in 10 to 16 years of age was about 1 kg. In height groups below this also the same range was observed. It gradually increased until in height group 150-154.9 cm., the maximum of 5.9 kg. was reached. Thereafter, a gradual diminution in the range was observed. This group of 150-154.9 cm. covered the age range of 12-18 years. In girls a range of about 1 kg. of weight in height group 130-134.9 cm. occurring in 8 to 13 years of age was observed. Also, in the height

Graph 9

BOYS



GIRLS

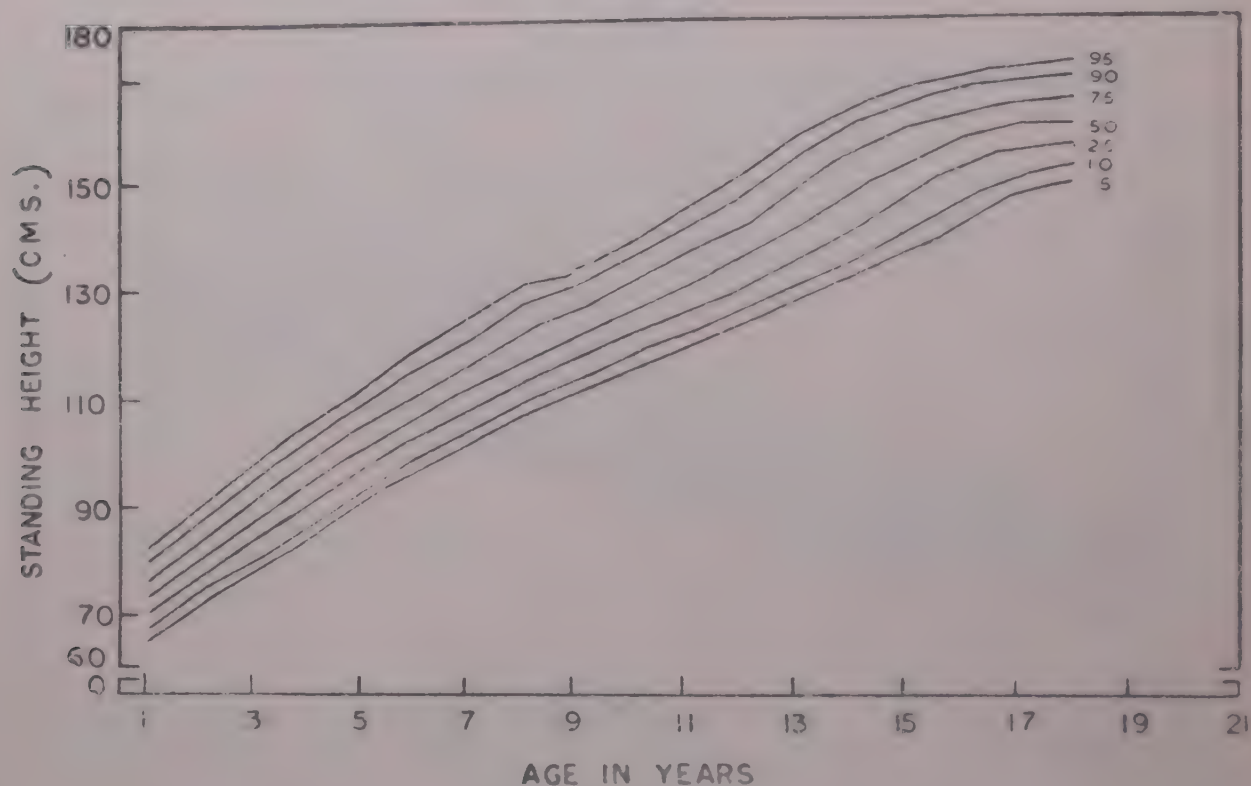


groups below this, the same range was noted. It gradually increased until in the height group 140-144.9 cm., the maximum of 7 kg. was reached covering an age range of 10 to 18 years. After this group, the range showed a decreasing trend.

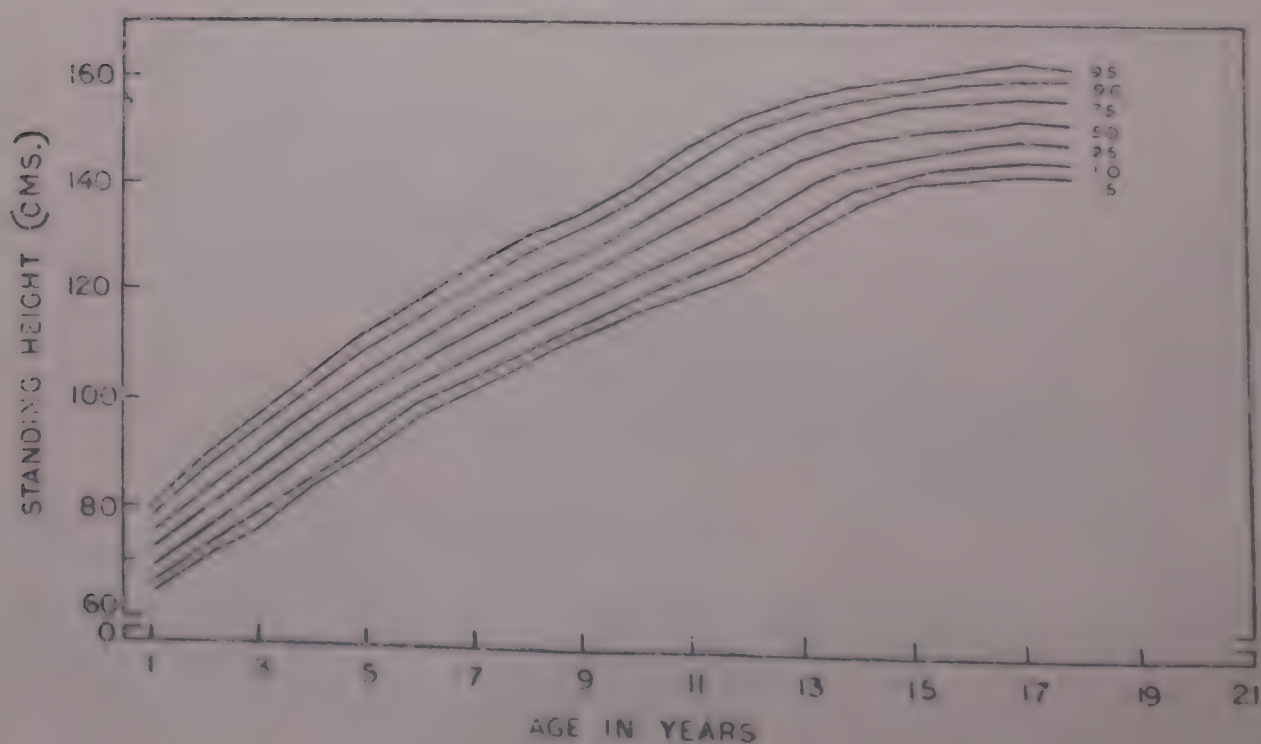
Identical observations could be made regarding the 50th percentiles (medians) which were very close to the mean values.

**Graph 10**

**BOYS**



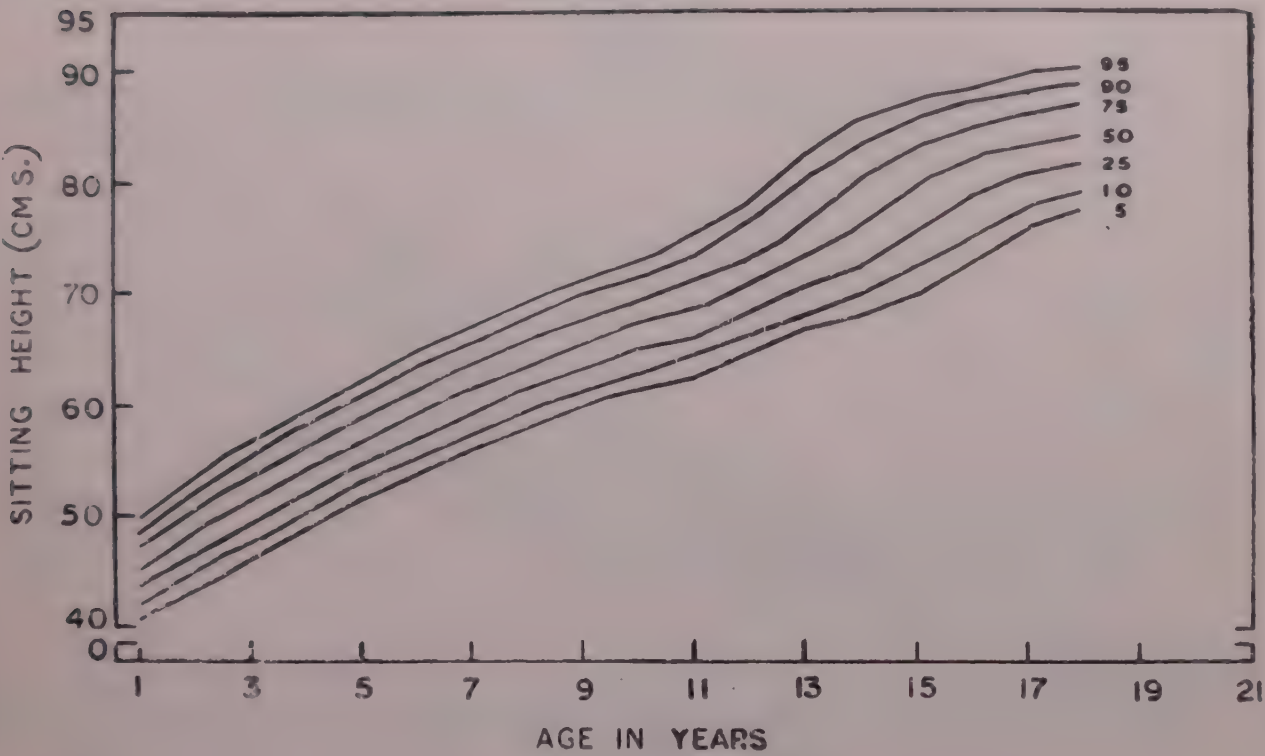
**GIRLS**



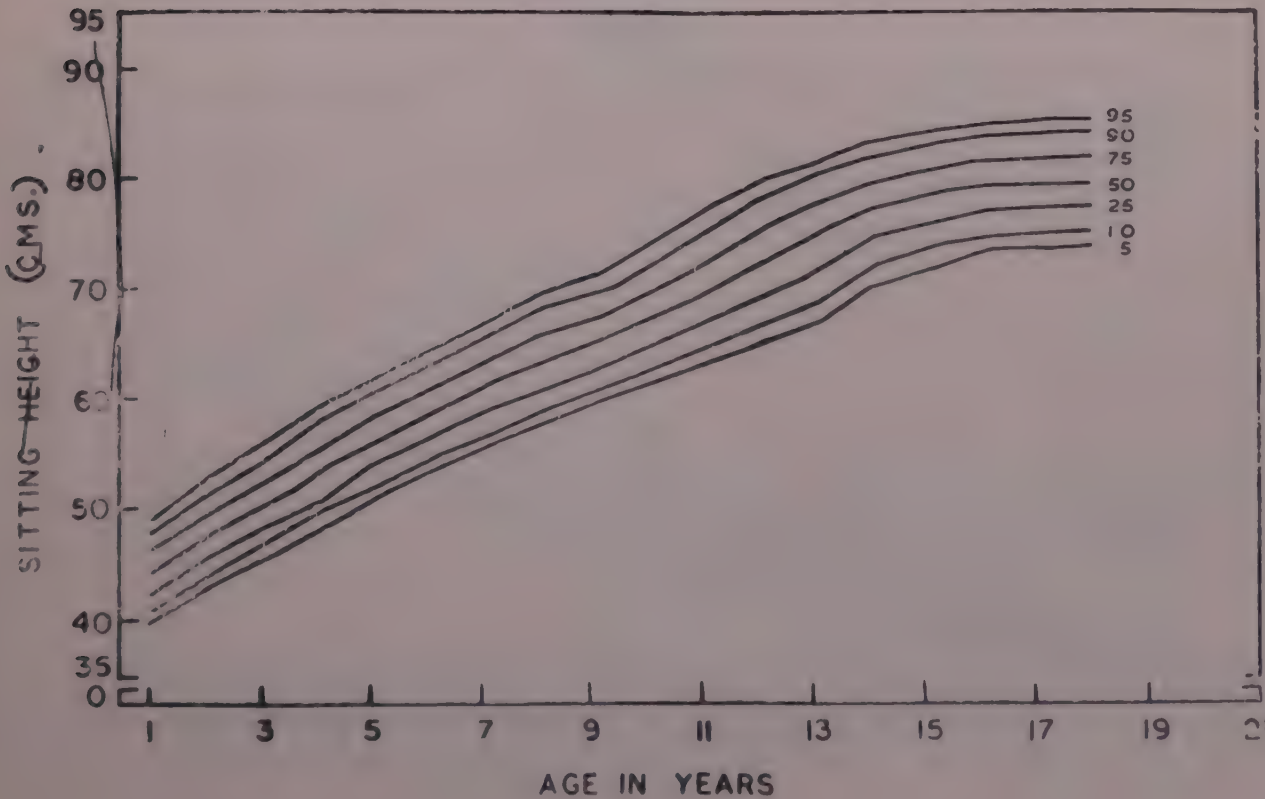


In each height group no definite trend in the weight means was observed. Cross-tabulation by height had reduced the sample size on which the means were based but this did not by itself contribute to the irregularity of the distribution. It must be recognized that the mean is affected by extreme values. In other words, the weights of children varied considerably in each height group for every age. This

Graph 11  
BOYS



GIRLS

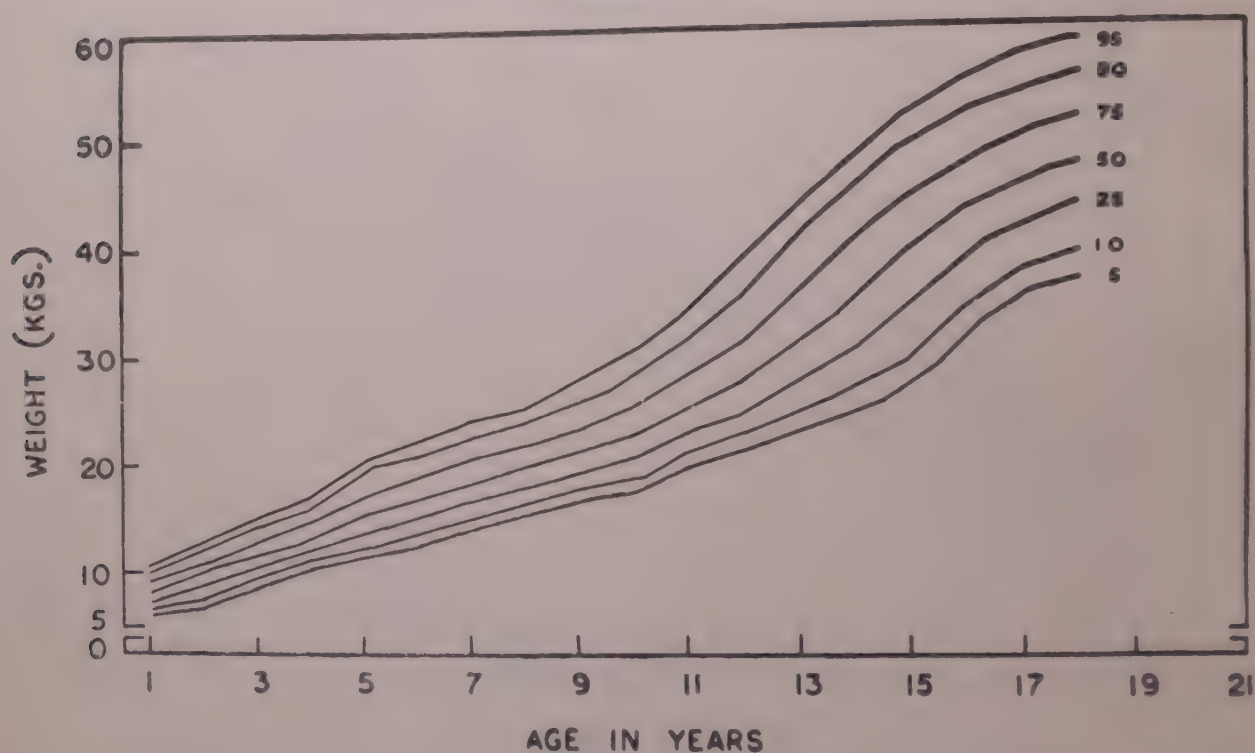


might be a reflection of undue variation in factors contributing to increase in weight, probably nutrition or socio-economic status, of the population from which the sample was drawn.

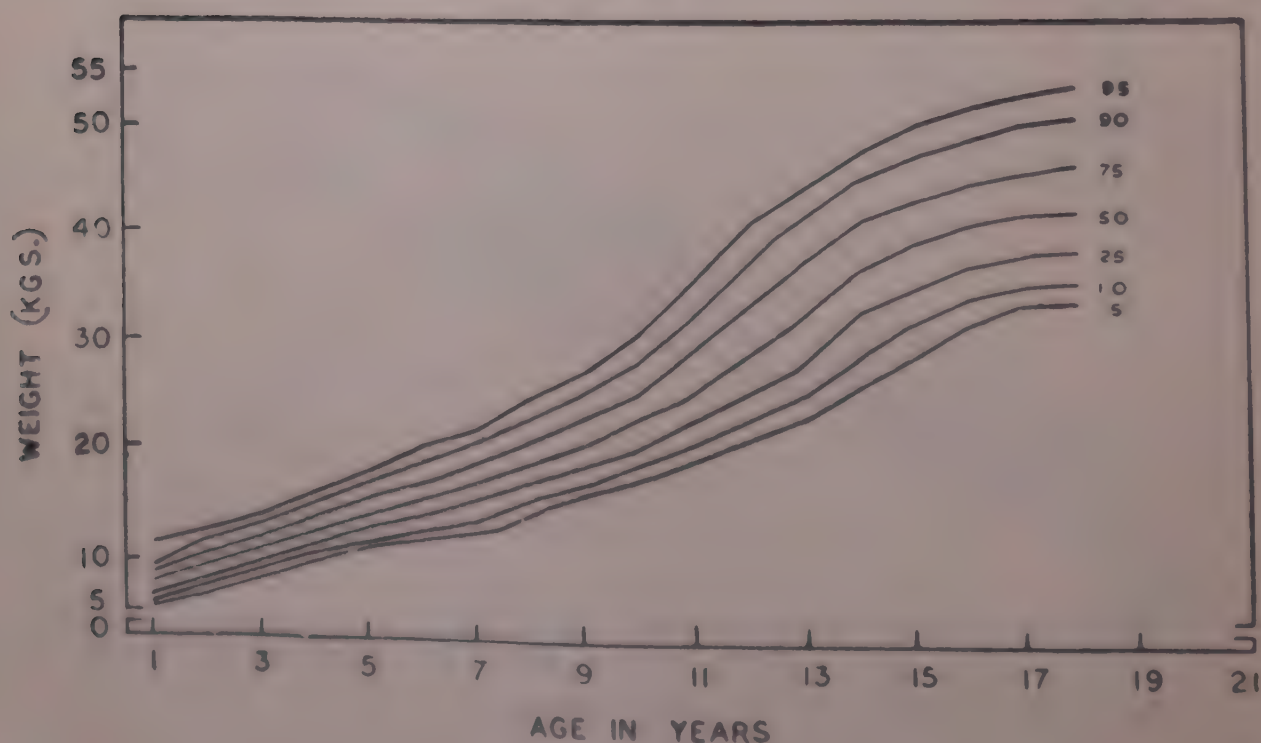
The foregoing observation could also be inferred from the fact that the co-efficients of variation of weight at each age were much higher (2 to 3 times) than those for height when the other variable was not taken into account.

Graph 12

### BOYS



### GIRLS



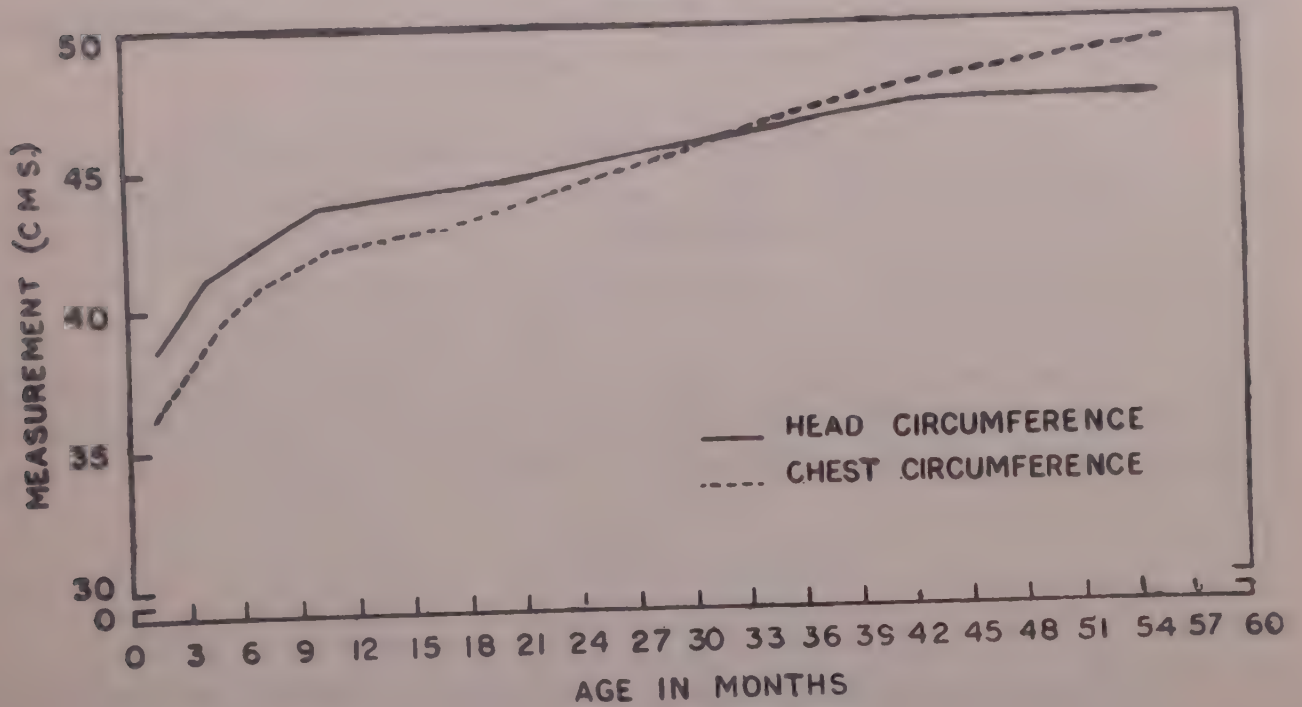


# Relationship between head and chest circumferences :

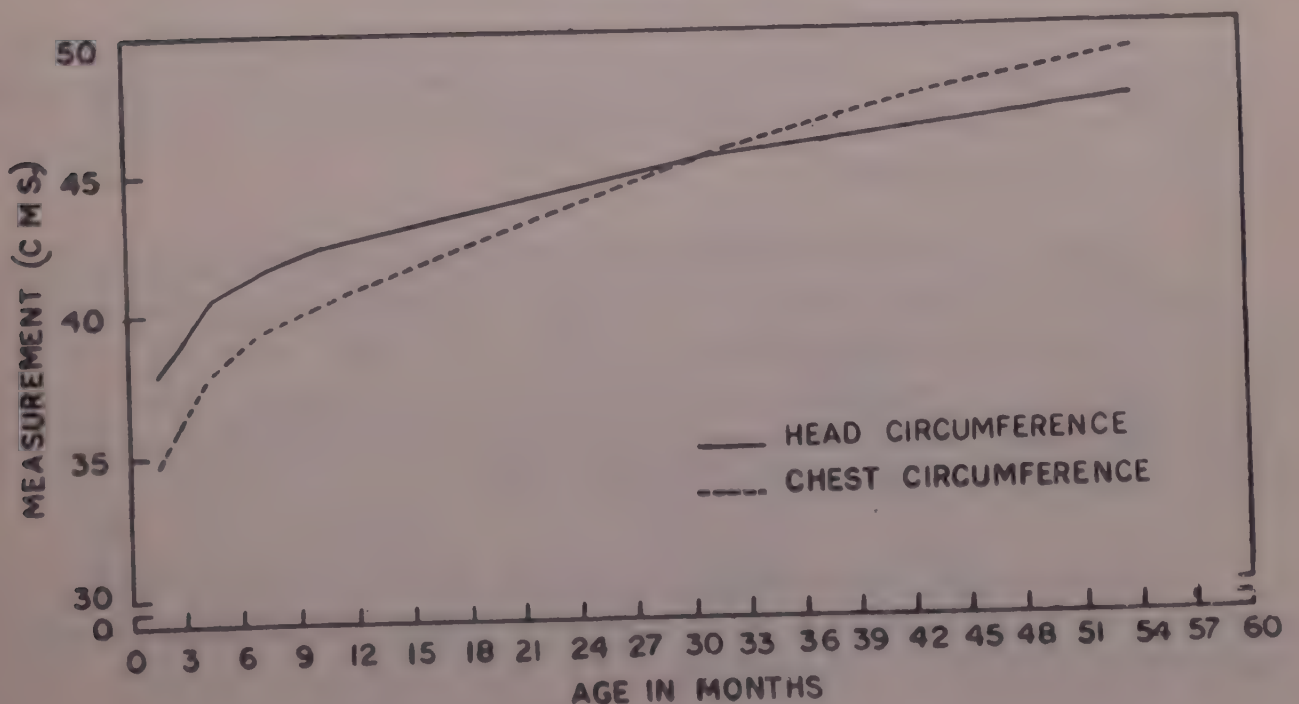
From the mean values given in Tables 2 and 3, and Graph 13 it would be observed that the ratio of the chest circumference to the head circumference was less than unity up to the age of 2 years and 6 months and 2 years and 9 months beyond which the chest circumference overtook the head circumference. Among American children the chest circumference overtook the head circumference by about the age of one year (Watson and Lowrey, 1962).

Graph 13

## BOYS



## GIRLS



## **Percentage distributions of standing height and weight :**

### **Standing height :**

The percentage distributions of heights (Tables 15-18, Graphs 14-15) were more or less similar at each year of age for both boys and girls aged 1-5 years and 6-11 years. The percentage of boys and girls aged 1-5 years in the successive modal groups decreased gradually while the modal group itself increased by 1 to 2 intervals with each increase in age. In the age group 6-11 years, the modal group increased by one interval in both sexes with each increase in age.

In the age-group 12-18 years, the pattern of the distributions for each year of age differed. The percentage of boys in the modal group decreased up to the age of 14 years and increased thereafter when at age 17 and 18 years the values coincided. At the later ages, the distributions were more compact and more peaked than for younger boys. Unlike that for the boys, the percentages in the modal groups of girls gradually increased with age. However, they were more compact for ages 15 through 18 years than for younger girls. The modal group remained the same after the age of 15 years for boys and 14 years for girls with each increase in age.

### **Weight :**

The percentage distributions of weights were more or less similar at each year of age for both boys and girls between 6 and 11 years but not between 1 and 5 years and 12 and 18 years.

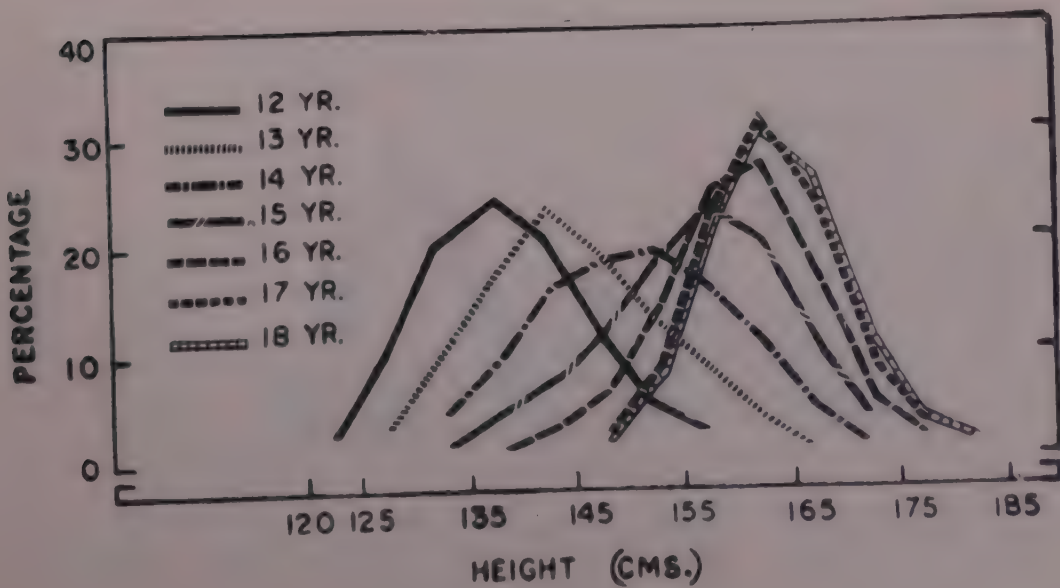
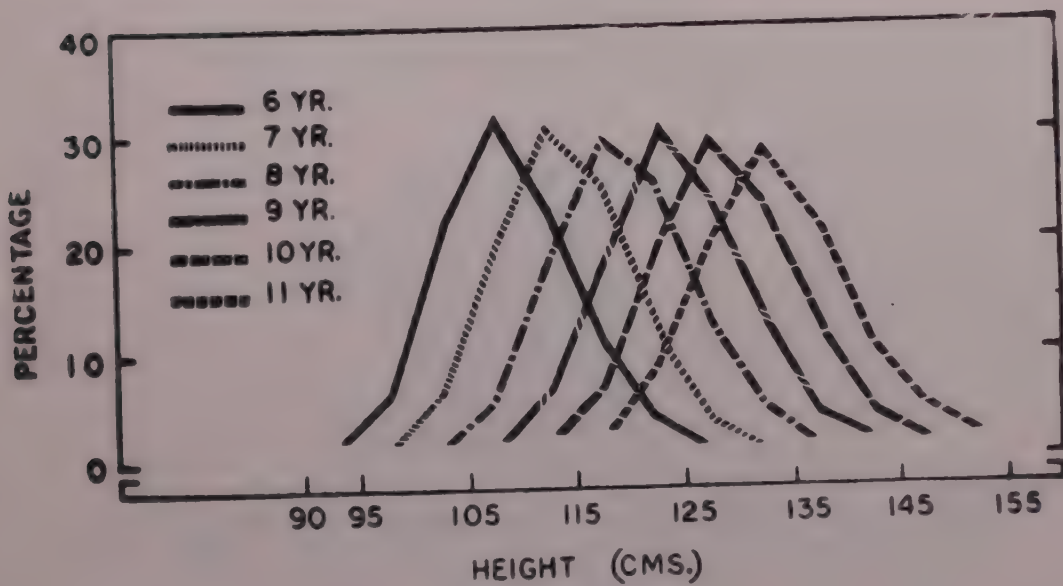
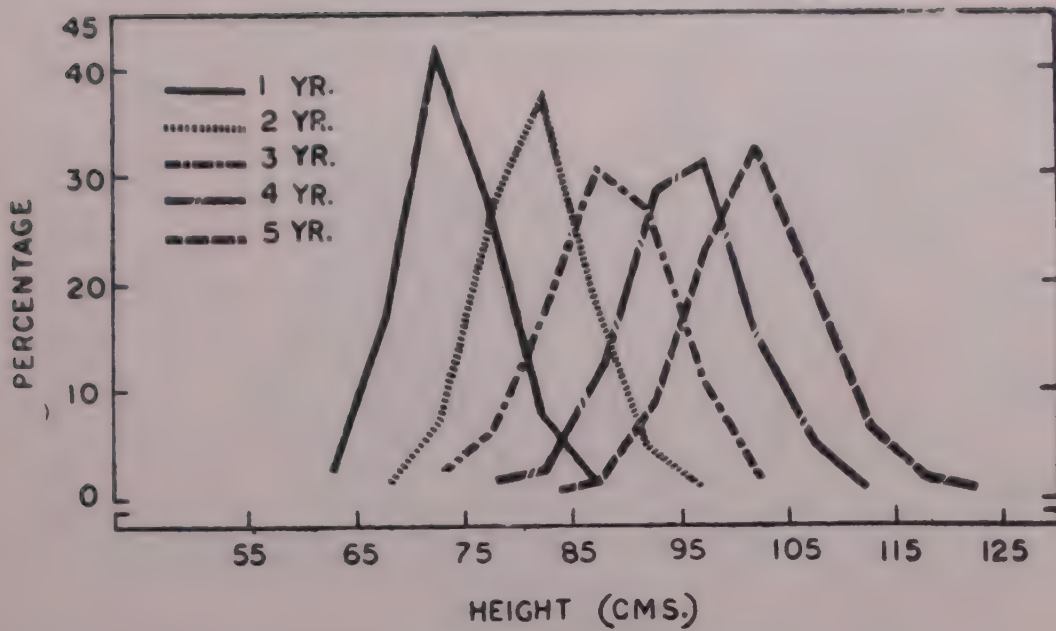
The percentage of boys and girls aged 6 through 11 years in successive modal groups decreased, though not uniformly, the modal group sometimes shifting and sometimes coinciding. This phenomenon was not observed in respect of the younger age group 1-5 years.

In the age group 12-18 years the percentages of children in the modal groups at ages 12, 13 and 14 years decreased. However, the decrease was more rapid for boys as in the case of height distributions but less so for girls. After the age of 15 years, the percentages steadily increased, all the values remaining almost the same for girls but varying for boys at ages 15 and 16 years but coincident at ages 17 and 18 years as in the case of the height distributions.

The pattern for the distribution of weights for each year of age was not uniform and showed greater variation between boys and girls as compared with the distributions of heights in the two sexes.

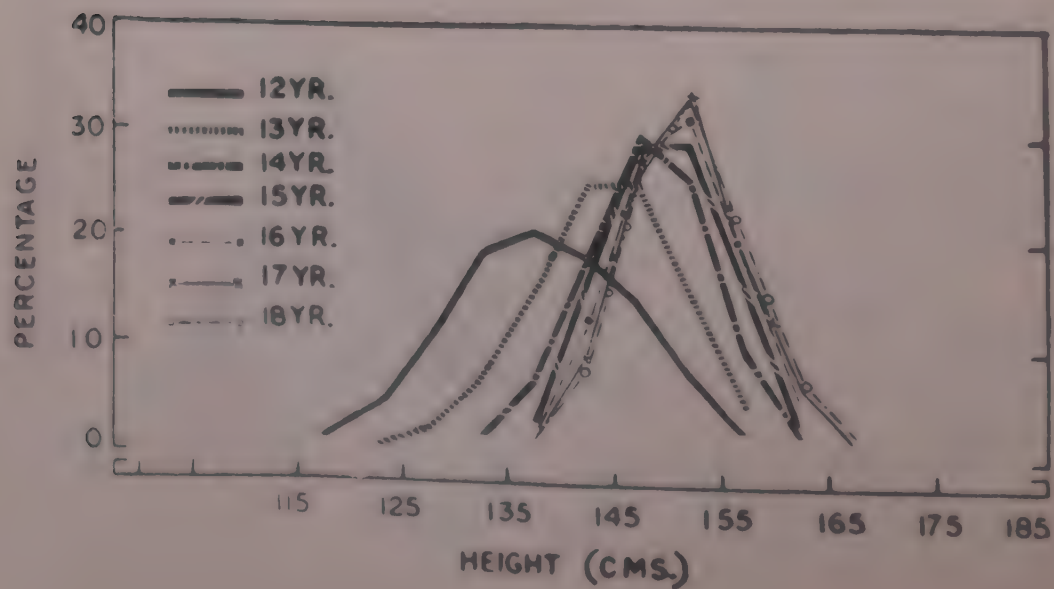
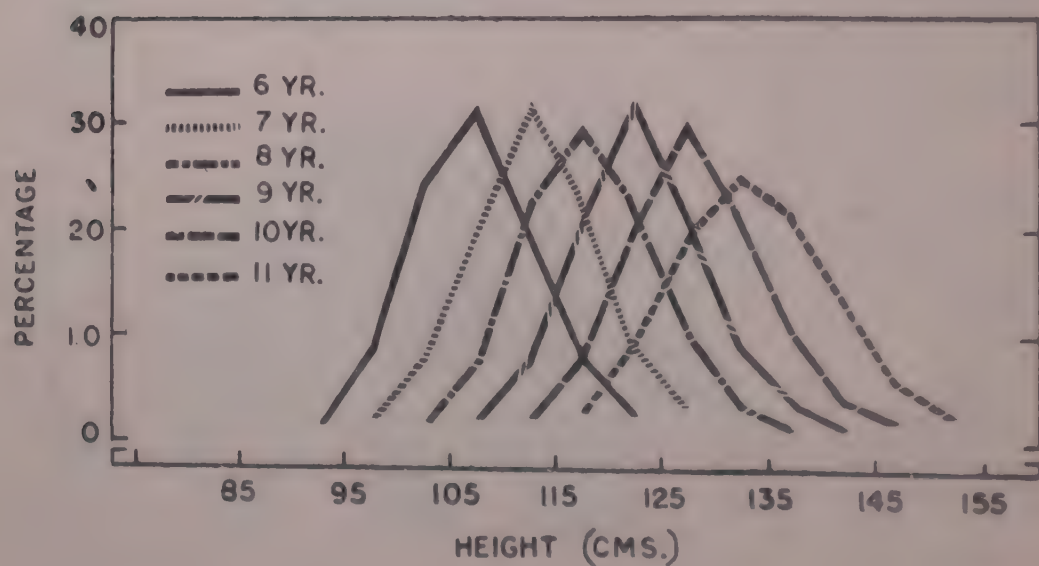
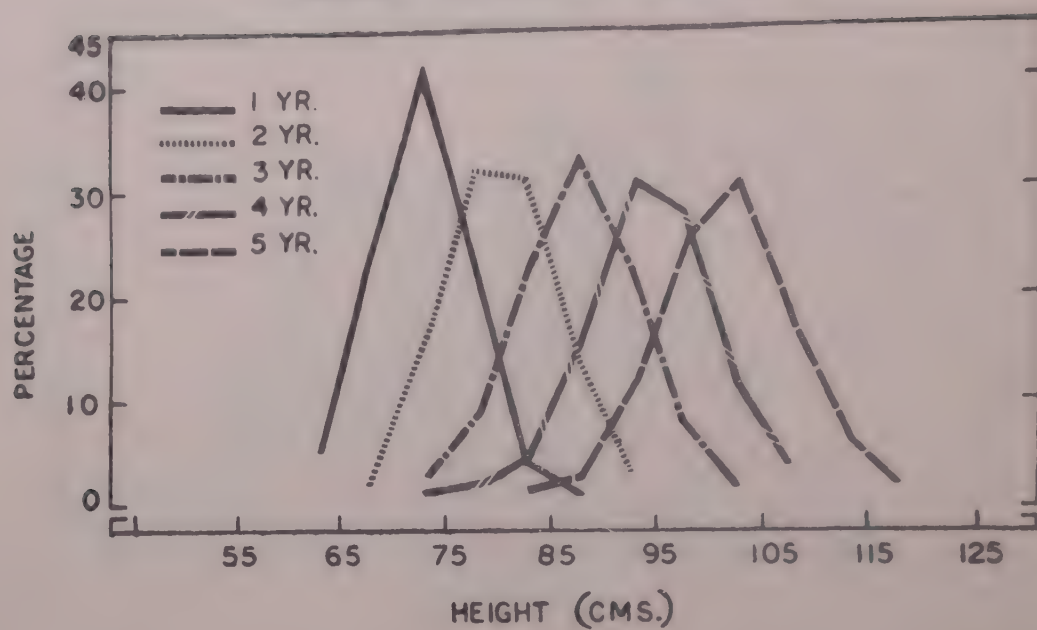


Graph 14(a)  
BOYS-- STANDING HEIGHT



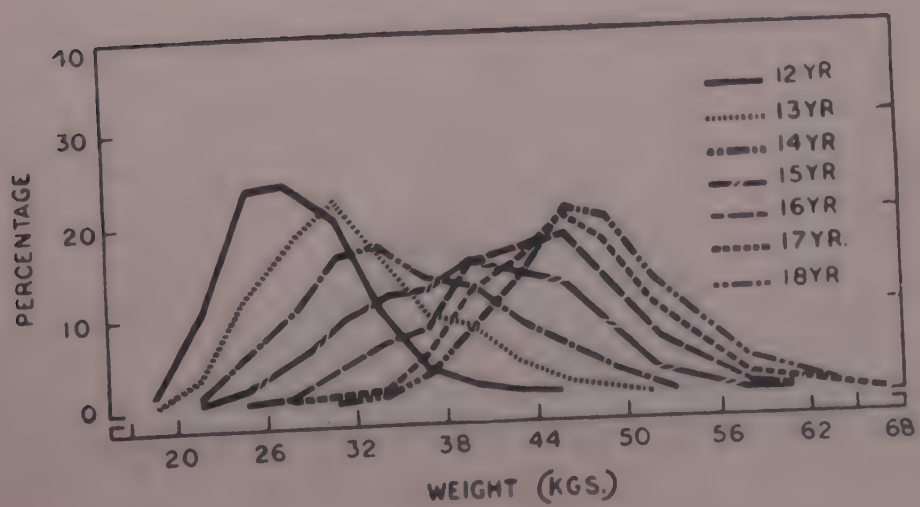
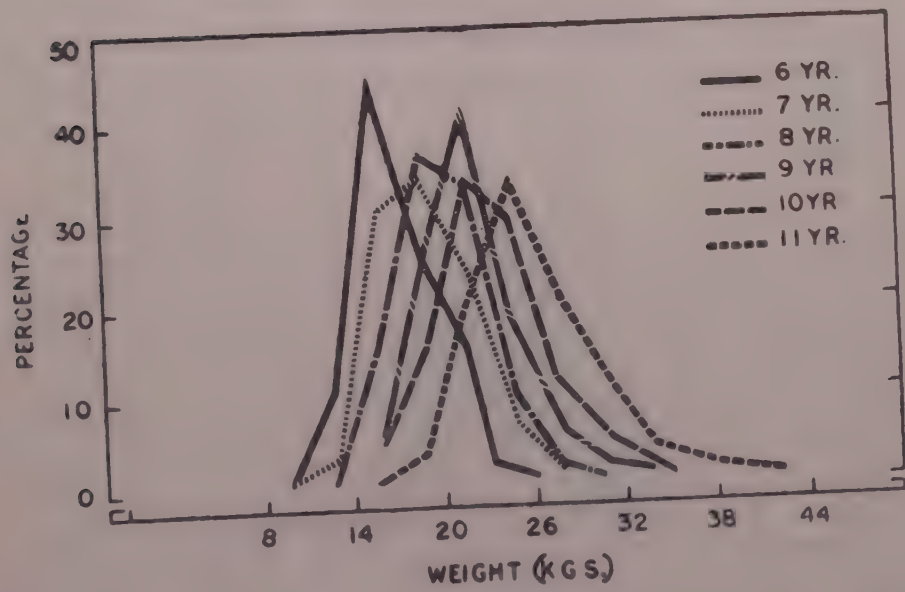
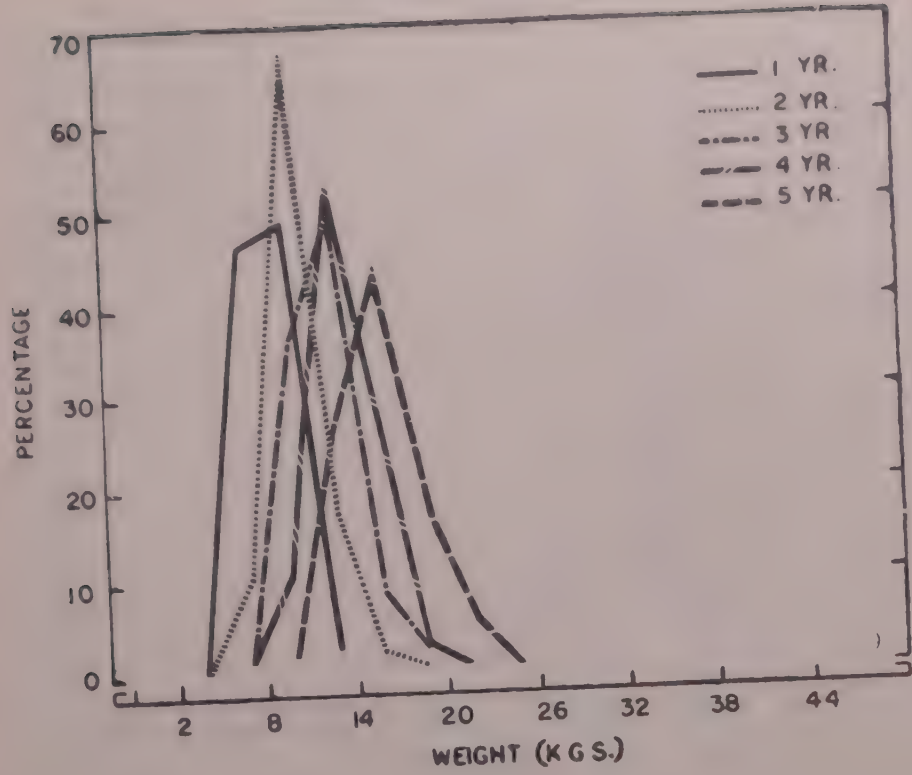
Graph 14(b)

## GIRLS—STANDING HEIGHT



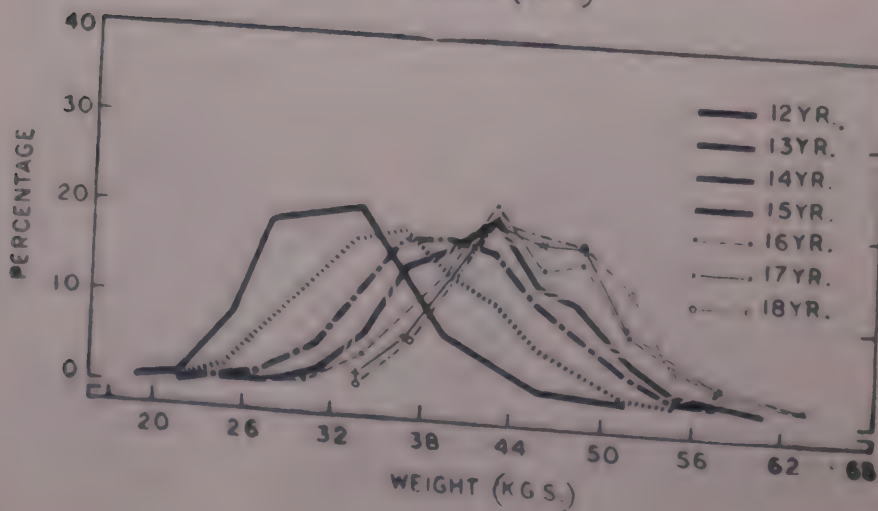
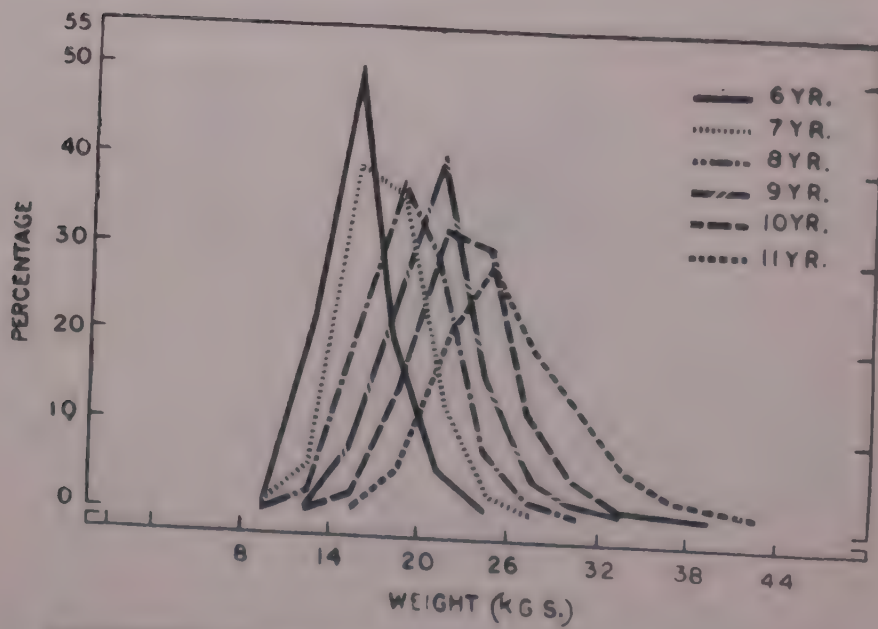
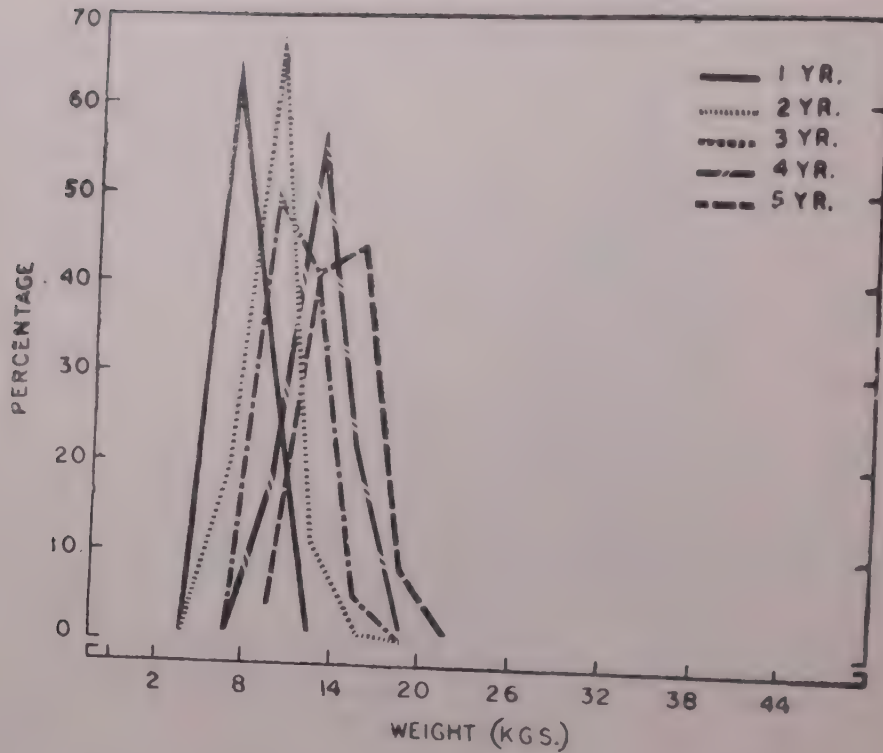


Graph 15(a)  
BOYS - WEIGHT



Graph 15(b)

GIRLS — WEIGHT





## Physical development

The appearance of puberty signs which occurs in the adolescent growth spurt represents the external manifestations of sexual development. These sexual characteristics—pubic, axillary, cheek, chin and upper lip hair and change of voice in boys and breast areola raised, breast tissue enlarged, pubic and axillary hair and menarche in girls—appear in a sequence at different timings. From cross-sectional data, the mean age at attainment of each puberty sign was obtained for boys and girls separately by probit analysis.

In boys, the earliest sign of onset of puberty is the growth of pubic hair (Tanner, 1962). This, on an average, occurred between 13 and 14 years of age. Individual departures from the average values and from the order of appearance of puberty signs, were observed. There were a few boys whose pubertal period started as early as 8 years and others who did not begin as late as 18 years. There was no specific sequence in appearance of puberty signs in boys.

In girls, the appearance of the breast is the first sign of puberty and attainment of menarche marks a definitive and probably mature stage of uterine development (Tanner loc cit). As in the case of boys, individual variations in the age at appearance of puberty signs did exist among girls, too. Some girls attained menarche as early as 9 years, while others had not started menstruating even at 20 years of age. The sequence of events was less variable among girls as compared to boys.

## Factors influencing growth and physical development :

In a vast country like India where people have different ethnic, religious, social and cultural background and a variety of customs and dietary habits, one can expect to find influence of these factors on growth and physical development of children.

## Region (States of India) :

The mean values of standing height and weight of children belonging to different States (Tables 19-30) were found to be significantly different from one another. The growth pattern varied from State to State throughout the age range. The children from Punjab and Delhi were taller and heavier than children from other States, on the average; whereas the mean heights and weights of children from Andhra Pradesh, Kerala, Madras and Poona (Maharashtra) were comparatively low. Variations in the rest of the anthropometric measurements among the children from the different States were also noted. Tables 82 and 83 reveal differences in the ages at the appearance of puberty signs of children coming from different States. The mean age of menarche of urban girls from Orissa was 11.38 years, being the lowest and that of the urban girls from Rajasthan was

14.00 years, being the highest. The lowest and the highest mean ages of menarche of rural girls were respectively 12.27 years in Andhra Pradesh and 14.80 in Jammu and Kashmir. Statewise differences were also observed among boys in the ages at appearance of puberty signs.

### **Residence (urban/rural) :**

It is generally believed that the place of residence (urban/rural) of children exerts some influence on growth, but reports on this aspect in literature are few. It was observed that the mean values of height and weight of children belonging to urban areas (Tables 31-36) were higher than those of children from rural areas throughout the growth period. However, the differences were not statistically significant. The same trend was seen in other anthropometric measurements as well.

It has been shown from Indian data that the urban girls attain age at menarche earlier than the rural girls (Shantha Madhavan, 1965). It was interesting to find (Tables 82 and 83) that puberty signs appeared more or less at the same mean ages for both urban and rural boys whereas urban girls attained puberty signs earlier than those from the rural areas as judged by the mean ages. The mean ages for boys ranged from 14.00 to 17.42 years and 13.82 to 16.63 years for urban and rural areas respectively. For girls, the corresponding ranges were 11.73 to 13.39 years and 12.07 to 14.04 years.

### **Religion :**

It is not known how exactly religion could influence the growth of a child. It may be due to differences in the diet or social or religious customs, specific to each religion. Jains and some of the Hindus are purely vegetarians while Muslims, Sikhs and Christians are generally non-vegetarians. In the present study growth of children was studied for five major religions of India namely Hindu, Muslim, Sikh, Jain and Christian (Tables 37-48). Significant differences were observed in the mean values of all anthropometric measurements except chest circumference of children over 7 years of age belonging to different religions. The mean values of height and weight of sikh children were found to be highest for both sexes while the lowest values were observed for children belonging to Jain and Christian religions. Likewise Sikh children had larger mean head circumference and mean bicristal diameter than those of the children belonging to other religions. It would be seen from the Tables 84 and 85 that sikh children attained almost all the puberty signs earlier than children belonging to other religions. Among other religions, there was no consistent pattern in the age of attainment of the puberty signs.



### **Socio-economic status :**

Socio-economic status plays a dominant role in the growth and physical development of children. Children from different socio-economic classes within the same community differ in their average body size at all ages, even at birth those of upper socio-economic class always having the highest. The influence of socio-economic factors is manifested in the nutrition and the entire environment which the children are compelled to adopt. Children from better socio-economic classes would naturally have better nutrition and better environment (Wilson *et. al.*, 1937 ; Wilson and Mitra, 1938 ; Mitra, 1940, 1941 ; Varkki *et. al.*, 1955).

In most studies carried out in India socio-economic status had been defined according to the father's occupation or income. It was therefore thought necessary to combine suitably the two factors, occupation and income, and arrive at a classification which would describe more appropriately the socio-economic status of the child. Accordingly in the present study the children were classified into six socio-economic classes (Annexure C).

Heights and weights of children were found to be significantly influenced by the socio-economic status of the children (Tables 49-60). In both sexes they were seen to be highest in the case of children belonging to Class I (highest) and lowest in case of those belonging to Class VI (lowest). Similar trend was seen in the mean values of other anthropometric measurements.

Commenting on the age at the appearance of the puberty signs, Tanner (1962) observes that the children from higher socio-economic classes attain puberty signs earlier than those belonging to the lower classes. From Tables 86 and 87 it could be seen that both boys and girls showed a gradual increasing trend in the mean ages at appearance of puberty signs, starting from Class I (highest). The differences in the ages between socio-economic classes were found to be statistically significant.

### **Per-capita income per annum :**

Per-capita income has a bearing on the growth and physical development of children. Since this index takes the family size into account one can know how much a child partakes of his/her family's total income. Hence a lesser per-capita income gives him/her for his/her feed among other necessities lesser in comparison with children with higher per-capita income. In the present study, per-capita income per annum was classified into seven groups (Annexure C). The growth of children (Tables 61-72) was observed to have been influenced by the per-capita income in the same way as the socio-economic status.

As in the case of the socio-economic classes the mean ages at the appearance of puberty signs (Tables 88 and 89) of boys and girls tended to increase from the highest income group (Group VII) to the lowest income group (Group I) being the lowest in the former and highest in the latter. Greater regularity was observed in case of boys relative to the girls. These data indicate that highest mean ages at the appearance of puberty signs in children are associated with the lowest mean values of anthropometric measurements. The influence of income on both body measurements and the age at the appearance of puberty signs of children might be a reflection of their nutrition.

#### Comparison of data from selected countries :

It might be seen from the Tables 73 and 74 that Indian children were shorter and lighter than their counterparts in the United States (Watson and Lowrey, 1962) and in Britain (Provis and Cellis, 1955). The difference in the growth was more pronounced after 13 years of age in both sexes. The growth curve of the British children occupied an intermediate position between those of American and Indian children. However, Indian children who belonged to socio-economic Class I (highest) displayed growth pattern similar to that of the British children. This might implicate the influence of better nutrition and better standard of living enjoyed by children who belonged to this class than those from the other classes.

American girls were taller between ages 11 and 13 years and heavier between 7 and 14 years than the boys. For the rest of the age range the situation was reversed. In case of British children the mean values of height and weight of girls were higher than those of boys between the ages 11 and 13 years and 11 and 14 years respectively. Among Indian girls, mean heights and weights were relatively greater at 11 and 12 years and between 10 and 14 years of age respectively.

The co-efficients of variation of height of Indian boys aged 5 years and 17 years were 7.9 per cent and 6.5 per cent respectively. The corresponding values for girls were 7.2 per cent and 5.0 per cent. The co-efficients of variation of weight of Indian boys aged 5 years and 17 years were 15.4 and 19.8 per cent respectively, the corresponding values for girls being 16.0 per cent and 15.9 per cent. These values were higher than the corresponding values of American and British boys and girls.

Table 75 gives the comparative figures of the mean ages at the attainment of menarche in selected countries (Shah, 1958) and of the present study. It varied from 12.6 years to 18.2 years. In an earlier study conducted in India the mean age at menarche was found to be 13.63 years as compared to 13.39 years in urban areas and 14.04 in rural areas from the present study.



## ANNEXURE A

**A note on the sample design**

The number of children to be covered by each team of the seven units was fixed in advance, namely 20,000. The distribution of this on the urban-rural axis was in the ratio 5 : 3. The samples in larger zones were constructed by dividing the area into sub-zones. Two teams functioned in the larger zones while only one in the smaller ones. Only those children who had spent a major part of their life in a given area were considered to be residents of that area.

**Rural areas :** A three-stage stratified sample design was adopted for the selection of sample households in the rural areas ; the districts, villages and the households forming the first second and third-stage units respectively. Using the district census data two-fifths of the districts in each zone or sub-zone were selected and in each selected district one out of every 200 villages was selected after stratifying the villages into two categories namely, one with villages having less than 1000 inhabitants and the other having between 1000 and 5000. However, the fraction varied around 1/200 according to the nature of the zone and the number of Units working in the zone. Past experience had indicated that the response rate among children was about 20 per cent of the population in a village. Allowing for the poor non-response rate, the fraction was so adjusted as to have a total of 15,000 children in the rural areas.

**Urban areas :** In the urban areas a total of 25,000 children were to be selected, 10,000 of which were to be inhabitants of cities with a population of over 1 lakh. The remainder was to be selected from small towns which were divided into 4 strata according to population. The number of children proposed to be included at random from each stratum is shown below.

<i>Strata (Population) in, 000</i>	<i>No. of population clusters selected</i>	<i>No. of children to be included</i>
over 100	5 cities	2,000 each
50-100	2 towns	1,200 each
20-50	3 towns	1,000 each
10-20	6 towns	800 each
5-10	8 towns	600 each

The capital cities of five States were selected since it was agreed that where the number of cities to be selected equalled the number of States within a zone, one

city would be allocated to each State. If the number was less, they would be randomly selected.

The children were drawn for examination from the schools. This method was resorted to because of ease of availability and moreover, schools could also be stratified broadly according to socio-economic status of their alumini as they cater to different sections of the society selectively. The sample design was two stages stratified. As the number of children in schools of each of three categories varied a great deal, it was difficult to apportion a precise number to be examined under each category and to maintain relative proportions to the total irrespective of the total number of children in each category of schools, equal number of children from each such category should be examined. The children aged under 5 years and some over 15 years who did not attend any school were also examined. In large cities this could be achieved with the help of public health authorities who instructed the persons concerned to attend the maternity and child health centres. The social organizations existing in the cities were asked to persuade the well-to-do classes to send in their children for examination at such places as were convenient to them. An alternative procedure in towns where such organizations did not exist was to adopt purposive sampling. A list of areas predominantly inhabited by the lower, middle and upper socio-economic classes was made and one block was selected from each and all the houses included in it were included in the sample. The number of children examined was that required to fill up the quota in the unrepresented sex-age groups.

In zones where only one Unit functioned the work-load was halved and the sample procedure was modified accordingly. An attempt was made to have roughly the same number of children of each year of age.



## ANNEXURE B

## Key to recording the information in the proformae

The information collected on children was recorded on proforma specially drawn for the purpose and was printed in two colours, *white* for the boys and *pink* for the girls. It consisted of 4 parts as listed below.

- |                       |                        |
|-----------------------|------------------------|
| I General information | II Measurements        |
| III Puberty signs     | IV Medical examination |

## General information

As stated in the text, the social worker recorded the information. In case the child was unable to give it satisfactorily, she secured it from her wards by visiting the child's home.

The occupation of the child's father, if living, or that of the ward was recorded under 'Occupation'. If an occupation was mentioned as business meaning self-employment, the nature of occupation was described e.g. automobile dealer, grocer and so on. In rural areas the following occupational categories were employed.

## Land holder :

Class I : Ownership of more than 50 acres of cultivable land

Class II :       ,,       20-50       -do-

Class III :       ,,       5-20       -do-

Class IV :       ,,       Less than 5       -do-

## Tenant

Agricultural labourer       Small trader

Artisan       Others (teacher, clerk, postman, village headman etc.)

Age and sex of each and every member of the family were noted down against "family member".

Total family income represents the pooled annual income of all the family members.

Information on housing conditions was helpful in assessing the child's socio-economic status. Needless to add that while mentioning living rooms, bath and toilet rooms were excluded.

### **Measurements :**

Every effort was made to secure accuracy of high order in measurements by employing standardized equipment which was re-calibrated from time to time. Furthermore, to avoid aberrations in weight due to garments, each Unit was supplied with aprons of varying sizes and of known weights for the children to wear before weighing. Whenever this was not possible, measurements were obtained with minimal clothing and due allowance was made while recording the weight.

**Standing height :** Height was measured in centimeters nearest to half a centimeter. The child was asked to stand without shoes but with heels together and with the shoulders, buttocks and heels touching the scales. The individual looked straight so that the line drawn from the tragus to the inferior orbital margin lay in a plane parallel with the floor, and he was asked to take a deep breath and make himself as tall as possible without raising the heels. The height was recorded when the anthropometer beam was brought down firmly on the vertex. In the case of girls it was necessary to remove any impediment like combs, ribbons, clasps or braids.

**Sitting height :** The child was made to sit as far back as possible on a broad bench with the legs hanging freely and the buttocks firmly in contact with the table top. In this position the spine was straightened and the head was poised, in the position described above. The anthropometer was held straight behind the back and its beam was brought into firm contact with vertex. The distance between the table top and the vertex gave the sitting height which was measured in centimeters.

**Weight :** A beam type scale was used for obtaining the weight in kg/lb. Its accuracy was checked daily with standard weights. The child was weighed preferably before the mid-day meal in minimal clothing, as stated above. The child was asked to empty the bladder before weighing.

**Hip width (Bicristal diameter):** The subject stood in an erect position facing the examiner. In the case of children under five, this was obtained in supine position.



Hip width was measured in cm. with the help of a pelvimeter as the distance from the lateral-most point of the crest of the ilium on one side to the corresponding point on the other side. Firm pressure was exerted without pain to the subject when the measurement was made.

**Head circumference :** This was measured in cm. around the head, with the tape passing over the supraciliary ridges in front and occipital protuberance behind in such a way as to get the maximum circumference.

**Chest circumference :** A helper held the child in the standing position with his palms inserted in the child's axillae. Then measured, the girth of the thorax at the level of the xiphisternum and in a plane at right angles to the vertebral column, below the inferior angles of the scapulae. Only enough tension was applied to enable the tape to rest against the perimeter of the thorax without slipping. Two measurements both in the position of normal expiration and inspiration were recorded in cm.

**Subcutaneous tissue :** A standard caliper which exerted a constant pressure was to be supplied to the Units. However due to import restrictions, it could not be done. It was suggested that the Units should use their own calipers and record information on the following sites.

- (a) **Arm :** Thickness of a longitudinal fold over the mid-point of the triceps on the left side was measured, with the arm slightly flexed at the elbow.
- (b) **Back trunk :** In the region slightly below and lateral to the inferior angle of the left scapula, thickness of an oblique fold which ran medially upwards and laterally downwards, was measured.
- (c) **Leg :** Over the mid-posterior aspect of the left calf at its widest girth a longitudinal fold was measured, with the leg hanging freely.

### **Puberty signs**

Certain easily ascertainable signs of puberty were noted to enable proper interpretation of the measurements obtained at the age of puberty.

### **Medical examination**

**Impressions by general inspection :** The children were classified into four categories by general appraisal taking into consideration, the amounts of muscle

tissue, subcutaneous tissue, skin elasticity and build etc. The four categories were good, medium +, medium—, and poor. It was purely a subjective appraisal and hence had certain limitations. It was felt that such clinical grading of children was desirable for proper interpretation of the results.

A complete clinical examination of the child was carried out in order to ascertain if it satisfied condition of eligibility for inclusion in the study.



# STUDIES ON GROWTH & PHYSICAL DEVELOPMENT OF INDIAN CHILDREN-CROSS-SECTIONAL STUDIES

## *Proforma for Boys*

Serial No \_\_\_\_\_ Dated \_\_\_\_\_

Place . City/Town/Village.....District.....State.....

Name.....

Address of contact.....Duration of stay in the region.....

Date of birth } Given by parents..... Years Months Days  
 } In school register.....Correct age.....  
 } In horoscope .....

Ethnic/or/Linguistic/Origin.....Religion .....Caste .....

Father's name.....Occupation

Family members : Adults M.....F.....Children M.....F.....

Total family income per annum Rs. \_\_\_\_\_

Housing

1. Type of house :

Thatched hut/Masonry Building/Block of flats/ Bungalow

Owned or rented Rent p.m.....

2. Number of living rooms.....

3. Sanitary facilities :

Type of latrine : Flush/Pit/Scavenger cleaned

Enclosure/Field/Shared/Not shared

Water supply : Protected/Unprotected/Shared/Not shared

Serial No.	Name of the measurement	Unit	Value	Remarks
------------	-------------------------	------	-------	---------

1.	Standing height/Crown heel maximum	inch/cm		
----	------------------------------------	---------	--	--

2.	Sitting height/Crown rump maximum	inch/cm		
----	-----------------------------------	---------	--	--

3.	Weight	lb/kg		
----	--------	-------	--	--

Serial No.	Name of the measurement	Unit	Value	Remarks
4.	Bicristal diameter	inch/cm		
5.	Head circumference	inch/cm		
6.	Chest circumference			
	(a) On expiration	inch/cm		
	(b) On inspiration	inch/cm		
7.	Subcutaneous tissue			
	(a) Back of left arm	mm		
	(b) Below left scapula	mm		
	(c) Widest portion of left calf indices	mm	Value	Class

#### Signs of puberty :

		(Cheek	+—
1. Hair : Pubic	+— Axillary	+— (Chin	+—
2. Change of voice	+—	(Upper	
		(Lip	+—

#### Medical examination :

1. Impression by general inspection

2. Health history

3. Physical examination

Heart	Lungs	Liver	Spleen	Enlarged glands
-------	-------	-------	--------	-----------------

4. Chronic infections : Skin/Tonsils/Ears/Sinuses  
Any other.

5. Nutritional deficiency signs :

General remarks



### Proforma for Girls

Serial No. ....

Dated.....

Place : City/Town/Village ..... District ..... State .....

Name.....

Address of contact.....Duration of stay in the region.....

Date of birth as )  
 ) Given by parents..... Years      Months      Days.....  
 )  
 ) In school register..... Correct age.....  
 )  
 ) In horoscope.....

Ethnic/or/Linguistic/Origin.....Religion.....Caste... ..

Father's name	Occupation

Family members : Adults M.....F.....Children M..... F.....

Total family income per annum Rs.... ..

Housing 1. Type of house :

Thatched hut/Masonry building/Block of Flats/Bungalow.

Owned or rented Rent p.m.... ..

2. Number of living rooms ... ..

### 3. Sanitary facilities :

Type of latrine: Flush/Pit/Scavenger Cleaned  
Enclosure/Field/Shared/Not shared

Water supply : Protected/Unprotected/Shared/Not shared

Serial No.	Name of the measurement	Unit	Value	Remarks
1.	Standing height/Crown heel maximum	inch/cm		
2.	Sitting height/Crown rump maximum	inch/cm		
3.	Weight	lb/kg		
4.	Bicristal diameter	inch/cm		

Serial No.	Name of the measurement	Unit	Value	Remarks
5.	Head circumference	inch/cm		
6.	Chest circumference			
	(a) On expiration	inch/cm		
	(b) On inspiration	inch/cm		
7.	Subcutaneous tissue	(a) Back of left arm mm		
		(b) Below left scapula mm		
		(c) Widest portion of left calf indices		
			Value	Class

#### Signs of puberty :

- |                         |                          |    |
|-------------------------|--------------------------|----|
| 1. Hair : Pubic         | +—Axillary               | +— |
| 2. Breast areola raised | +—Breast tissue enlarged | +— |
| 3. Menstruation         | +—                       |    |

#### Medical examination :

1. Impression by general inspection
2. Health history
3. Physical examination

Heart	Lungs	Liver	Spleen	Enlarged glands
-------	-------	-------	--------	-----------------

4. Chronic infections : Skin/Tonsils/Ears/Sinuses/Any other

5. Nutritional deficiency signs :

General remarks :



## ANNEXURE C

## Classification of data

**Economic status :** On the basis of the information obtained at the time of the study, the information on economic status was classified according to the income in rupees per capita per annum in the following categories :—

<i>Groups</i>	<i>Range</i>	<i>(Rs.)</i>
I	0	— 50
II	51	— 100
III	101	— 200
IV	201	— 400
V	401	— 600
VI	601	— 900
VII	901 and above	

**Diet :** The information on the staple cereals and millets in the diet like rice, wheat, Jowar and Bajra of all the children examined was recorded. In case of children consuming more than one of the above cereals, only that which formed a major part of the diet and which was consumed for a major part of the year was recorded.

**Religion :** The principal religions, such as Hindu, Muslim, Christian, Sikh, Jain and that followed by Parsis were noted. In tribal areas the entry under religion was only tribal.

**Socio-economic status :** The problem of classifying individuals into different socio-economic classes was complex. Factors like the state of nutrition, clothing, housing and the way of living etc., which eventually determined the social status of an individual were dependent to a great extent on his economic resources which in turn depended on his occupation. Moreover, the traditions he follows and the training that is imparted to him also influence his social conditions to a varying extent. Based on these considerations, an attempt was made to group the various occupations, into 6 broad socio-economic divisions. Family income had been one of the important considerations in allocating the families to any particular socio-economic class. In this context some distinction had to be made between the joint and the individual families. For example, a joint family with a pooled income of Rs. 1,000 p.m. could not be treated on par with an individual family with identical income. In the case of joint families each earning member with his own income was treated as an independent family unit.

A certain amount of overlapping was inevitable at the marginal levels between any two consecutive classes. However, a fairly satisfactory classification could be arrived at taking into account the existing conditions in India. In the following classes only the numerically more important occupations are listed.

**Class I :** In this class all individuals who had a steady and assured income of over Rs. 1,000 p.m. were included. Under the Indian conditions, this level of income would perhaps be considered to be adequate to provide for all the requirements of a healthful living.

The following occupational categories came under this heading :

(a) **Civil Services :** All Government officials and employees of local or autonomous bodies who drew salary of Rs. 1,000 or over per mensem.

(b) **Defence Services :** Persons from the various divisions of the armed forces, with a similar income.

(c) **Commercial :** Industrial magnates, managing directors and directors of big firms and their employees with an assured income of Rs. 1,000 p.m. All businessmen, who cleared a net profit of over Rs. 1,000 every month.

(d) **Professional :** Physicians, surgeons, lawyers, engineers, authors, various college and university professors, etc., whose income came up to the levels mentioned above.

(e) **Artists :** Actors, musicians, dancers and others of allied profession with steady income of Rs. 1,000 and over.

(f) **Others :** All other persons with a regular income of similar degree including members of the old Princely States, Zamindars and Proprietors, etc.

**Class II :** In this class all the junior members from the various occupational categories listed above, whose income ranged between Rs. 500 and 1,000 p.m. were included. This group comprised persons who could, with some effort, achieve reasonably good nutritional and health standards provided they took advantage of the knowledge that was within their reach. This section of the community generally represented the upper middle class of the Indian Society.

**Class III :** In this were included all persons whose monthly income ranged between Rs. 200 and 500.

Families belonging to this group were able just to maintain a satisfactory standard of living by a judicious management of their income. This segment comprised the lower middle class families in the country. The following occupational categories were included in this group :



(a) Junior most members in the Gazetted ranks of the Government services, and other N.G.O.'s etc., whose income exceeded Rs. 200 p.m.

(b) Junior members in the various professions who had just started their careers.

(c) Headmasters of high schools, lecturers and readers, etc., whose income was within the range given above.

(d) All other members in the non-government services with the above level of income.

(e) Members in the various trades with a regular income which came within the range given for this group.

(f) Army personnel of similar income.

**Class IV :** In this group were included all persons with an income of less than Rs. 200 per mensem, but for whose employment certain basic educational qualifications were imperative. For classes IV and V, however, a discrimination was made between families living in urban areas and villages. Families living in villages generally did not have the same facilities with regard to health services and environmental conditions, hence such families were downgraded by one step while placing them in the different socio-economic classes. In other words, a family from class IV was to be taken to class V if it happened to live in under-developed rural areas. The occupations that came under this group were :

All clerical staff, inspectors, teachers, tax-collectors, mechanics and technicians, cashiers, commercial artists, telephone operators, telegraphists, compounders, nurses, vaccinators, supervisors and all other allied workers.

**Class V :** In this were included persons whose income was between Rs.200 and Rs.100 and whose occupation did not require necessarily any educational qualifications. Usually all skilled workers and artisans came under this group, e.g. tailors, carpenters, painters, modellers, smiths, bakers drivers, shop assistants, petty traders, constables, soldiers, linesmen, pointsmen, potters, barbers, dhobies etc.

**Class VI :** In this were included all agricultural or other unskilled labourers, fishermen, tappers, gardeners, domestic or other servants, etc., whose income was usually less than Rs.100 p.m.



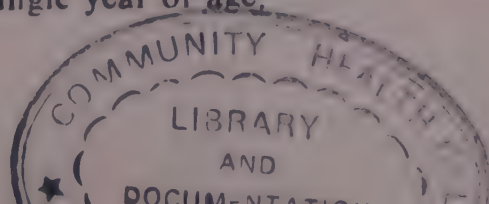
## REFERENCES

- Mitra, K. (1940) Dietary and nutrition survey at Jamshedpur, an industrial town in Bihar. *Ind. Jour. Med. Res.*, **27**, p. 887.
- Mitra, K. (1941) Dietary and physique survey of mining population in Jharia Coal Field (Bihar). *Ind. Jour. Med. Res.*, **29**, p. 143.
- Provis, H.H., and Cellis, R.W.B. (1955) An anthropometric study of Edinburgh School children : Part I. *Arch. Dis. Childhood*, **30**, pp. 328-337.
- Shah, K.A. (1958) The age of menarche in Gujarati girls. *Ind. Jour. Med. Assoc.*, **30**, pp. 347-51.
- Shantha Madhavan (1965) Age at menarche of South Indian girls, belonging to the States of Madras and Kerala. *Ind. Jour. Med. Res.*, **53**, pp. 669-673.
- Someswara Rao, K. (1961) Anthropometric measurements and indices in nutritional surveys. Review of nutrition surveys, carried out in India. *Indian Council of Medical Research : Special Report Series No. 36*, pp. 26-40.
- Tanner, J.M. (1962) *Growth at adolescence* (2nd Edition). Blackwell Scientific Publications, Oxford.
- Varkki, C., Venkatchalam, P.S., Shrikantia, S.G., and Gopalan, C. (1955) Study of birth-weights of infants in relation to the incidence of nutritional oedema Syndrome (Kwashiorkor). *Ind. Jour. Med. Res.*, **43**, pp. 291-96.
- Watson, E.H., and Lowery, G.H. (1962) *Growth and Development of Children* (4th Edition). Yearbook Medical Publishers (Inc.), Chicago.
- Wilson, H.E.C., Ahmad, B., and Mitra, D.D. (1937) Nutritional survey of school boys in Calcutta and the Punjab by means of clinical observations, A.C.H. Index of Nutrition and other measurements. *Ind. Jour. Med. Res.*, **24**, p. 817.
- Wilson, H.E.C., and Mitra, D.D. (1938) A diet and physique survey in Assam, rural Bengal and Calcutta. *Ind. Jour. Med. Res.*, **26**, p. 131.

## DETAILED TABLES

1. Means and standard deviations (S.D.) for bicristal diameter of infants and children aged 1 through 21 years by sex and stated age ; with actual number of children measured.
2. Means and standard deviations (S.D.) for head circumference of infants and children aged 1 through 21 years by sex and stated age ; with actual number of children measured.
3. Means and standard deviations (S.D.) for chest circumference of infants and children aged 1 through 21 years by sex and stated age ; with actual number of children measured.
4. Means and standard deviations (S.D.) for standing height of infants and children aged 1 through 21 years by sex and stated age ; with actual number of children measured.
5. Means and standard deviations (S.D.) for sitting height of infants and children aged 1 through 21 years by sex and stated age : with actual number of children measured.
6. Means and standard deviations (S.D.) for weight of infants and children aged 1 through 21 years by sex and stated age : with actual number of children measured.
7. Selected percentiles of bicristal diameter distribution of children aged 1 through 18 years by sex and single year of age.
8. Selected percentiles of head circumference distribution of children aged 1 through 18 years by sex and single year of age.
9. Selected percentiles of chest circumference distribution of children aged 1 through 18 years by sex and single year of age.
10. Selected percentiles of standing height distribution of children aged 1 through 18 years by sex and single year of age.
11. Selected percentiles of sitting height distribution of children aged 1 through 18 years by sex and single year of age.
12. Selected percentiles of weight distribution of children aged 1 through 18 years by sex and single year of age.
13. Selected percentiles of weight distribution of boys aged 1 through 18 years at successive grouped height intervals, by single year of age.

3037





14. Selected percentiles of weight distribution of girls aged 1 through 18 years at successive grouped height intervals, by single year of age.
15. Percentage distribution of grouped standing heights of boys aged 1 through 18 years by single year of age ; with actual number of boys measured.
16. Percentage distribution of grouped standing heights of girls aged 1 through 18 years by single year of age ; with actual number of girls measured.
17. Percentage of distribution of grouped weights of boys aged 1 through 18 years by single year of age ; with actual number of boys measured.
18. Percentage distribution of grouped weights of girls aged 1 through 18 years by single year of age ; with actual number of girls measured.
19. Means and standard deviations (S.D.) for bicristal diameter of male infants and boys aged 1 through 21 years by region (States of India) and age ; with actual number of children measured.
20. Means and standard deviations (S.D.) for bicristal diameter of female infants and girls aged 1 through 21 years by region (States of India) and age ; with actual number of children measured.
21. Means and standard deviations (S.D.) for head circumference of male infants and boys aged 1 through 21 years by region (States of India) and age ; with actual number of children measured.
22. Means and standard deviations (S.D.) for head circumference of female infants and girls aged 1 through 21 years by region (States of India) and age ; with actual number of children measured.
23. Means and standard deviations (S.D.) for chest circumference of male infants and boys aged 1 through 21 years by region (States of India) and age ; with actual number of children measured.
24. Means and standard deviations (S.D.) for chest circumference of female infants and girls aged 1 through 21 years by region (States of India) and age ; with actual number of children measured.
25. Means and standard deviations (S.D.) for standing height of male infants and boys aged 1 through 21 years by region (States of India) and age ; with actual number of children measured.
26. Means and standard deviations (S.D.) for standing height of female infants and girls aged 1 through 21 years by region (States of India) and age ; with actual number of children measured.



27. Means and standard deviations (S.D.) for sitting height of male infants and boys aged 1 through 21 years by region (States of India) and age ; with actual number of children measured.
28. Means and standard deviations (S.D.) for sitting height of female infants and girls aged 1 through 21 years by region (States of India) and age ; with actual number of children measured.
29. Means and standard deviations (S.D.) for weight of male infants and boys aged 1 through 21 years by region (States of India) and age ; with actual number of children measured.
30. Means and standard deviations (S.D.) for weight of female infants and girls aged 1 through 21 years by region (States of India) and age ; with actual number of children measured.
31. Means and standard deviations (S.D.) for bicristal diameter of infants and children aged 1 through 21 years by sex, residence (urban/rural) and age with actual number of children measured.
32. Means and standard deviations (S.D.) for head circumference of infants and children aged 1 through 21 years by sex, residence (urban/rural) and age ; with actual number of children measured.
33. Means and standard deviations (S.D.) for chest circumference of infants and children aged 1 through 21 years by sex, residence (urban/rural) and age ; with actual number of children measured.
34. Means and standard deviations (S D ) for standing height of infants and children aged 1 through 21 years by sex, residence (urban/rural) and age ; with actual number of children measured.
35. Means and standard deviations (S.D.) for sitting height of infants and children aged 1 through 21 years by sex residence (urban/rural) and age ; with actual number of children measured.
36. Means and standard deviations (S.D ) for weight of infants and children aged 1 through 21 years by sex, residence (urban/rural) and age ; with actual number of children measured.
37. Means and standard deviations (S D.) for bicristal diameter of male infants and boys aged 1 through 21 years by religion and age ; with actual number of children measured.
38. Means and standard deviations (S.D.) for bicristal diameter of female infants and girls aged 1 through 21 years by religion and age ; with actual number of children measured.

39. Means and standard deviations (S.D.) for head circumference of male infants and boys aged 1 through 21 years by religion and age ; with actual number of children measured.
40. Means and standard deviations (S.D.) for head circumference of female infants and girls aged 1 through 21 years by religion and age ; with actual number of children measured.
41. Means and standard deviations (S.D.) for chest circumference of male infants and boys aged 1 through 21 years by religion and age ; with actual number of children measured.
42. Means and standard deviations (S.D.) for chest circumference of female infants and girls aged 1 through 21 years by religion and age, with actual number of children measured.
43. Means and standard deviations (S.D.) for standing height of male infants and boys aged 1 through 21 years by religion and age ; with actual number of children measured.
44. Means and standard deviations (S.D.) for standing height of female infants and girls aged 1 through 21 years by religion and age : with actual number of children measured.
45. Means and standard deviations (S.D.) for sitting height of male infants and boys aged 1 through 21 years by religion and age ; with actual number of children measured.
46. Means and standard deviations (S.D.) for sitting height of female infants and girls aged 1 through 21 years by religion and age ; with actual number of children measured.
47. Means and standard deviations (S.D.) for weight of male infants and boys aged 1 through 21 years by religion and age : with actual number of children measured.
48. Means and standard deviations (S.D.) for weight of female infants and girls aged 1 through 21 years by religion and age : with actual number of children measured.
49. Means and standard deviations (S.D.) for bicristal diameter of male infants and boys aged 1 through 21 years by socio-economic status and age ; with actual number of children measured.
50. Means and standard deviations (S.D.) for bicristal diameter of female infants and girls aged 1 through 21 years by socio-economic status and age : with actual number of children measured.



51. Means and standard deviations (S.D.) for head circumference of male infants and boys aged 1 through 21 years by socio-economic status and age ; with actual number of children measured.
52. Means and standard deviations (S.D.) for head circumference of female infants and girls aged 1 through 21 years by socio-economic status and with actual number of children measured.
53. Means and standard deviations (S.D.) for chest circumference of male infants and boys aged 1 through 21 years by socio-economic status and age ; with actual number of children measured.
54. Means and standard deviations (S.D.) for chest circumference of female infants and girls aged 1 through 21 years by socio-economic status and age ; with actual number of children measured.
55. Means and standard deviations (S.D.) for standing height of male infants and boys aged 1 through 21 years by socio-economic status and age ; with actual number of children measured.
56. Means and standard deviations (S.D.) for standing height of female infants and girls aged 1 through 21 years by socio-economic status and age : with actual number of children measured.
57. Means and standard deviations (S.D.) for sitting height of male infants; and boys aged 1 through 21 years by socio-economic status and age with actual number of children measured.
58. Means and standard deviations (S.D.) for sitting height of female infants and girls aged 1 through 21 years by socio-economic status and age ; with actual number of children measured.
59. Means and standard deviations (S.D.) for weight of male infants and boys aged 1 through 21 years by socio-economic status and age ; with actual number of children measured.
60. Means and standard deviations (S.D.) for weight of female infants and girls aged 1 through 21 years by socio-economic status and age ; with actual number of children measured.
61. Means and standard deviations (S.D.) for bicristal diameter of male infants and boys aged 1 through 21 years by per-capita income and age, with actual number of children measured.
62. Means and standard deviations (S.D.) for bicristal diameter of female infants and girls aged 1 through 21 years by per-capita income and age ; with actual number of children measured.

63. Means and standard deviations (S.D.) for head circumference of male infants and boys aged 1 through 21 years by per-capita income and age ; with actual number of children measured.
64. Means and standard deviations (S.D.) for head circumference of female infants and girls aged 1 through 21 years by per-capita income and age ; with actual number of children measured.
65. Means and standard deviations (S.D.) for chest circumference of male infants and boys aged 1 through 21 years by per-capita income and age ; with actual number of children measured.
66. Means and standard deviations (S.D.) for chest circumference of female infants and girls aged 1 through 21 years by per-capita income and age ; with actual number of children measured.
67. Means and standard deviations (S.D.) for standing height of male infants and boys aged 1 through 21 years by per-capita income and age ; with actual number of children measured.
68. Means and standard deviations (S.D.) for standing height of female infants and girls aged 1 through 21 years by per-capita income and age ; with actual number of children measured.
69. Means and standard deviations (S.D.) for sitting height of male infants and boys aged 1 through 21 years by per-capita income and age ; with actual number of children measured.
70. Means and standard deviations (S.D.) for sitting height of female infants and girls aged 1 through 21 years by per-capita income and age ; with actual number of children measured.
71. Means and standard deviations (S.D.) for weight of male infants and boys aged 1 through 21 years by per-capita income and age ; with actual number of children measured.
72. Means and standard deviations (S.D.) for weight of female infants and girls aged 1 through 21 years by per-capita income and age ; with actual number of children measured.
73. Comparison of mean heights of children aged 5 through 17 years from United States of America, Britain, India (Pooled) and India (Socio-economic class-I) by sex and single year of age.
74. Comparison of mean weights of children aged 5 through 17 years from United States of America, Britain, India (Pooled) and India (Socio-economic class I) by sex and single year of age.



75. Comparison of mean ages at attainment of menarche in selected countries.
76. Means and standard deviations (S.D.) for bicristal diameter of infants and children aged 1 through 21 years by sex and verified age ; with actual number of children measured.
77. Means and standard deviations (S.D.) for head circumference of infants and children aged 1 through 21 years by sex and verified age ; with actual number of children measured.
78. Means and standard deviations (S.D.) for chest circumference of infants and children aged 1 through 21 years by sex and verified age ; with actual number of children measured.
79. Means and standard deviations (S.D.) for standing height of infants and children aged 1 through 21 years by sex and verified age ; with actual number of children measured.
80. Means and standard deviations (S.D.) for sitting height of infants and children aged 1 through 21 years by sex and verified age ; with actual number of children measured.
81. Means and standard deviations (S.D.) for weight of infants and children aged 1 through 21 years by sex and verified age ; with actual number of children measured.
82. Mean ages at the attainment of selected puberty signs of boys by region (States of India) and residence (Urban/rural).
83. Mean ages at the attainment of selected puberty signs of girls by region (States of India) and residence (Urban/rural).
84. Mean ages at the attainment of selected puberty signs of boys by religion.
85. Mean ages at the attainment of selected puberty signs of girls by religion.
86. Mean ages at the attainment of selected puberty signs of boys by socio-economic status.
87. Mean ages at the attainment of selected puberty signs of girls by socio-economic status.
88. Mean ages at the attainment of selected puberty signs of boys by per-capita income.
89. Mean ages at the attainment of selected puberty signs of girls by per-capita income.

TABLE 1

Means and standard deviations (S.D.) for bicristal diameter of infants and children aged 1 through 21 years by sex and stated age with actual number of children measured.

Age	Sex					
	Boys			Girls		
	Bicristal diameter (cm.)					
	Number	Mean	S.D.	Number	Mean	S.D.
Less than 3 months	261	10.1	3.50	280	9.4	2.91
3 months +	424	10.9	2.54	296	10.7	3.26
6 months +	390	11.2	1.70	366	11.0	2.65
9 months +	410	11.5	1.95	334	11.2	2.69
1 year +	2906	12.1	1.28	2654	11.7	1.40
2 years +	2824	13.5	1.26	2603	13.2	1.34
3 years +	3057	14.7	1.26	2956	14.4	1.25
4 years +	3413	15.7	1.33	2940	15.4	1.30
5 years +	3484	16.4	1.27	3221	16.3	1.38
6 years +	3816	17.2	1.37	3665	17.0	1.92
7 years +	3711	17.9	1.39	3603	17.8	1.58
8 years +	3956	18.5	1.43	3487	18.4	1.56
9 years +	3873	19.1	1.47	3556	19.1	1.56
10 years +	4065	19.8	1.48	3646	19.9	2.08
11 years +	3879	20.4	1.56	3442	20.9	2.04
12 years +	4052	21.1	1.71	3426	22.0	2.44
13 years +	3875	22.1	1.88	3168	23.1	2.34
14 years +	3621	23.0	1.99	2900	24.1	1.95
15 years +	3609	24.0	1.94	2644	24.8	1.91
16 years +	3451	24.7	1.79	2534	25.2	1.80
17 years +	3233	25.2	1.70	2115	25.5	1.80
18 years +	3006	25.4	1.62	1712	25.5	1.81
19 years +	2547	25.5	1.64	1463	25.5	1.72
20 years +	1757	25.6	1.58	951	25.5	1.83
21 years +	176	25.5	1.59	100	25.7	1.54



TABLE 2

Means and standard deviations (S.D.) for head circumference of infants and children aged 1 through 21 years by sex and stated age with actual number of children measured.

Age	Sex					
	Boys			Girls		
	Head circumference (cm.)					
	Number	Mean	S.D.	Number	Mean	S.D.
Less than 3 months	261	38.6	4.78	280	37.7	3.24
3 months +	424	41.6	2.88	293	40.6	3.62
6 months +	389	42.6	2.07	366	41.7	2.55
9 months +	400	43.7	2.09	334	42.4	2.47
1 year +	2903	44.4	3.63	2643	43.6	1.84
2 years +	2793	45.9	3.68	2563	45.2	1.75
3 years +	2168	47.3	2.07	2141	46.2	1.77
4 years +	2168	48.0	1.80	1962	47.1	1.81
5 years +	2241	48.5	1.70	2159	47.8	1.71
6 years +	2514	49.0	1.73	2508	48.3	1.61
7 years +	2406	49.4	1.74	2478	48.9	1.83
8 years +	2531	49.9	1.76	2408	49.3	1.64
9 years +	2499	50.1	1.73	2438	49.7	1.63
10 years +	2647	50.4	1.69	2784	50.1	1.63
11 years +	2501	50.7	1.65	2519	50.6	1.93
12 years +	2596	51.1	1.71	2427	51.0	2.00
13 years +	2416	51.6	1.83	2212	51.6	1.74
14 years +	2328	52.0	1.83	1988	52.0	1.65
15 years +	2337	52.6	1.81	1627	52.2	1.85
16 years +	2179	53.0	1.90	1559	52.4	1.61
17 years +	2044	53.3	1.71	1240	52.5	1.63
18 years +	1905	53.5	1.81	976	52.5	1.62
19 years +	1626	53.5	1.73	747	52.5	1.60
20 years +	939	53.6	1.68	421	52.6	1.74
21 years +	150	53.8	1.68	75	53.0	1.41

TABLE 3

Means and standard deviations (S.D.) for chest circumference of infants and children aged 1 through 21 years by sex and stated age with actual number of children measured.

Age	Sex					
	Boys			Girls		
	Chest circumference (cm.)					
	Number	Mean	S.D.	Number	Mean	S.D.
Less than 3 months	261	36.0	4.39	270	34.7	3.77
3 months +	424	39.4	2.57	293	38.0	2.27
6 months +	390	41.1	2.61	365	39.5	2.42
9 months +	400	42.2	2.68	334	40.5	2.50
1 years +	2874	43.3	4.73	2654	42.3	3.95
2 years +	2676	45.8	4.95	2501	45.2	3.18
3 years +	2194	48.0	4.29	2166	47.2	3.47
4 years +	2212	49.4	5.13	2002	48.7	3.17
5 years +	2358	50.8	5.45	2175	50.1	3.78
6 years +	2636	52.5	5.09	2550	51.3	4.83
7 years +	2519	54.2	5.08	2533	52.9	5.54
8 years +	2654	55.5	6.31	2430	54.7	4.65
9 years +	2601	57.3	5.08	2501	56.2	4.64
10 years +	2809	59.1	4.85	2523	58.4	4.68
11 years +	2638	60.4	5.23	2213	60.7	4.89
12 years +	2641	62.9	4.79	2020	63.4	6.80
13 years +	2381	65.4	6.67	1785	66.9	6.64
14 years +	2229	67.8	7.82	1581	70.2	6.78
15 years +	2122	70.9	7.61	1394	71.5	6.46
16 years +	2054	73.2	8.50	1264	72.9	6.68
17 years +	1879	75.5	7.88	1064	73.1	6.92
18 years +	1843	76.5	8.03	942	73.8	8.15
19 years +	1615	77.3	7.36	801	74.1	7.13
20 years +	1140	77.3	8.60	552	74.6	6.26
21 years +	138	78.4	8.05	58	76.7	5.56



TABLE 4

Means and standard deviations (S.D.) for standing height of infants and children aged 1 through 21 years by sex and stated age with actual number of children measured.

Age	Sex					
	Boys			Girls		
	Standing height (cm.)					
	Number	Mean	S.D.	Number	Mean	S.D.
Less than 3 months	261	56.2	5.90	280	55.0	5.41
3 months +	427	62.7	4.01	296	60.9	3.55
6 months +	391	64.9	8.10	366	64.4	3.63
9 months +	411	69.5	4.50	334	66.7	3.85
1 year +	2906	73.9	5.28	2654	72.5	5.20
2 years +	2824	81.6	5.32	2603	80.1	5.79
3 years +	3057	88.8	6.57	2956	87.2	6.34
4 years +	3413	96.0	6.72	2940	94.5	6.35
5 years +	3484	102.1	8.08	3221	101.4	7.35
6 years +	3816	108.5	7.15	3665	107.4	8.65
7 years +	3711	113.9	8.67	3603	112.8	8.49
8 years +	3957	119.3	7.34	3487	118.2	7.71
9 years +	3873	123.7	9.28	3556	122.9	7.53
10 years +	4065	124.4	9.99	3646	128.4	8.02
11 years +	3879	133.4	9.73	3442	133.6	9.49
12 years +	4052	138.3	10.14	3426	139.2	10.24
13 years +	3875	144.6	9.76	3168	143.9	9.23
14 years +	3621	150.1	10.03	2900	147.5	9.72
15 years +	3609	155.5	10.01	2644	149.6	8.31
16 years +	3451	159.5	9.75	2534	151.0	7.11
17 years +	3235	161.4	10.45	2115	151.5	7.51
18 years +	3006	163.1	9.57	1712	151.7	5.89
19 years +	2547	163.5	9.64	1463	151.7	5.88
20 years +	1757	164.1	7.00	951	151.7	5.90
21 years +	176	164.2	6.08	100	153.0	5.73

TABLE 5

Means and standard deviations (S.D.) for sitting height of infants and children aged 1 through 21 years by sex and stated age with actual number of children measured.

Age	Sex					
	Boys			Girls		
	Sitting height (cm.)					
	Number	Mean	S.D.	Number	Mean	S.D.
Less than 3 months	261	36.2	4.03	280	35.3	2.33
3 months +	427	41.8	5.95	296	39.1	2.44
6 months +	391	42.3	2.21	366	40.9	2.36
9 months +	411	43.4	2.62	334	42.1	2.60
1 years +	2906	45.4	2.92	2654	44.2	2.87
2 years +	2824	48.7	3.13	2603	47.5	3.20
3 years +	3057	51.6	3.26	2956	50.3	3.25
4 years +	3413	54.5	3.35	2940	53.3	3.19
5 years +	3484	57.0	3.27	3221	56.0	3.45
6 years +	3816	59.4	3.33	3665	58.4	3.55
7 years +	3711	61.7	3.39	3603	60.7	3.46
8 years +	3957	63.8	3.63	3487	62.9	3.57
9 years +	3873	65.6	3.56	3556	64.8	3.53
10 years +	4065	67.5	3.62	3646	67.1	4.04
11 years +	3879	69.5	3.97	3442	69.5	4.18
12 years +	4052	71.4	4.13	3426	72.2	4.48
13 years +	3875	74.2	4.67	3168	74.6	4.25
14 years +	3621	76.8	5.40	2900	76.8	3.95
15 years +	3609	79.8	5.16	2644	77.9	3.72
16 years +	3451	82.0	4.82	2534	78.8	3.53
17 years +	3235	83.7	4.43	2115	79.2	3.47
18 years +	3006	84.4	4.09	1712	79.2	3.47
19 years +	2547	84.3	3.69	1463	79.2	3.57
20 years +	1757	85.0	3.57	951	79.2	3.51
21 years +	176	85.1	3.50	100	80.0	3.14

TABLE 6

Means and standard deviations (S.D.) for weight of infants and children aged 1 through 21 years by sex and stated age with actual number of children measured.

Age	Sex					
	Boys			Girls		
	weight (kg.)					
	Number	Mean	S.D.	Number	Mean	S.D.
Less than 3 months	261	4.5	1.42	280	4.2	1.17
3 months +	427	6.7	1.14	296	5.6	0.98
6 months +	391	6.9	1.15	366	6.2	0.99
9 months +	411	7.4	1.27	334	6.6	1.13
1 year +	2906	8.4	1.73	2654	7.8	1.63
2 years +	2824	10.1	1.80	2603	9.6	1.93
3 years +	3057	11.8	2.06	2956	11.2	1.96
4 years +	3413	13.5	2.97	2940	12.9	2.17
5 years +	3484	14.8	2.28	3221	14.5	2.31
6 years +	3816	16.3	2.68	3665	16.0	2.63
7 years +	3711	18.0	3.03	3603	17.6	2.92
8 years +	3957	19.7	3.37	3487	19.4	3.25
9 years +	3873	21.5	4.47	3556	21.3	3.77
10 years +	4065	23.5	5.26	3646	23.6	5.74
11 years +	3879	25.9	6.33	3442	26.4	5.53
12 years +	4052	28.5	6.10	3446	29.8	6.63
13 years +	3875	32.1	6.82	3168	33.3	7.26
14 years +	3621	35.7	7.62	2900	36.8	7.23
15 years +	3609	39.6	8.36	2644	38.8	7.12
16 years +	3451	43.2	7.88	2534	41.1	6.80
17 years +	3235	45.7	9.07	2115	42.4	6.76
18 years +	3006	47.4	7.20	1712	42.4	7.17
19 years +	2547	48.1	7.03	1463	42.4	6.78
20 years +	1757	49.2	6.86	951	43.5	7.28
21 years +	176	49.5	6.84	100	44.0	6.92



TABLE 7

Selected percentiles of bicristal diameter distribution of children aged 1 through 21 years  
by sex and single year of age

Age	Boys					Girls								
	Percentiles					Percentiles								
	5	10	25	50	75	90	95	5	10	25	50	75	90	95
	Bicristal diameter (cm.)													
1 year +	10.2	10.5	11.3	12.2	13.1	14.4	14.0	9.9	10.2	10.8	11.7	12.6	13.4	13.9
2 years +	11.3	11.9	12.6	13.5	14.4	15.2	15.9	11.1	11.4	12.3	13.1	14.0	14.8	15.3
3 years +	12.6	13.1	13.9	14.7	15.5	16.2	16.8	12.2	12.8	13.5	14.4	15.2	15.9	16.5
4 years +	13.7	14.2	14.9	15.6	16.5	17.2	17.8	13.3	14.0	14.5	15.4	16.2	17.6	17.7
5 years +	14.4	15.0	15.6	16.4	17.3	18.0	18.6	14.2	14.7	15.4	16.3	17.2	18.2	19.0
6 years +	15.1	15.5	16.3	17.2	18.1	18.9	19.5	14.9	15.3	16.1	17.0	17.9	18.8	19.3
7 years +	15.6	16.2	17.0	17.9	18.8	19.7	20.2	15.4	16.0	16.8	17.8	18.7	19.5	20.0
8 years +	16.3	16.9	17.6	18.5	19.5	20.3	20.9	16.1	16.5	17.4	18.4	19.3	20.2	20.8
9 years +	16.8	17.3	18.2	19.1	20.0	20.9	21.6	16.6	17.2	18.2	19.0	19.9	20.9	21.7
10 years +	17.4	18.1	18.8	19.7	20.7	21.7	22.4	17.3	18.0	18.8	19.8	20.8	22.0	22.9
11 years +	18.0	18.8	19.4	20.4	21.4	22.6	23.3	18.1	18.5	19.5	20.6	21.9	23.4	24.4
12 years +	18.4	19.0	20.0	21.0	22.2	23.5	24.1	18.7	19.3	20.4	21.9	23.3	24.6	25.4
13 years +	18.8	19.3	20.8	21.5	23.0	24.4	25.0	19.4	20.2	21.5	23.1	24.4	25.5	25.9
14 years +	19.7	20.3	21.5	23.0	24.4	25.6	26.2	20.5	21.3	22.9	24.2	25.4	26.5	27.1
15 years +	20.4	21.3	22.7	24.1	25.3	26.4	27.1	21.3	22.4	23.6	24.8	25.9	27.1	27.8
16 years +	21.5	22.3	23.5	24.7	25.8	26.9	27.7	21.9	22.8	24.1	25.2	26.3	27.4	28.8
17 years +	22.1	23.0	24.0	25.1	26.1	27.4	28.1	22.4	23.2	24.3	25.4	26.5	27.7	28.4
18 years +	22.8	23.4	24.3	25.4	26.5	27.6	28.1	22.5	23.2	24.3	25.5	26.6	27.8	28.5

TABLE 8  
 Selected percentiles of head circumference distribution of children aged 1 through 21 years  
 by sex and single year of age.

Age	Boys										Girls											
	Percentiles										Percentiles											
	5	10	25	50	75	90	95	5	10	25	50	75	90	95	5	10	25	50	75	90	95	
	Head circumference (cm.)																					
1 year +	41.7	42.5	43.7	44.8	46.0	47.0	47.7	40.6	41.3	42.4	43.6	44.8	45.8	46.6	42.4	43.3	44.4	45.6	46.8	47.9	48.6	
2 years +	43.4	44.2	45.2	46.4	47.5	48.5	49.0	42.3	43.0	44.0	45.1	46.3	47.3	47.9	44.0	44.9	45.9	47.0	48.1	49.1	49.9	
3 years +	44.3	45.1	46.2	47.3	48.4	49.5	50.0	43.4	44.2	45.2	46.3	47.3	48.4	49.0	45.2	46.1	47.1	48.2	49.2	50.0	50.6	
4 years +	45.3	46.0	47.0	48.0	49.1	50.0	50.7	44.3	45.1	46.0	47.1	48.1	49.2	49.9	46.0	46.9	47.9	48.9	49.9	50.6	51.2	
5 years +	46.0	46.5	47.4	48.5	49.6	50.6	51.2	45.1	45.7	46.7	47.8	48.9	49.9	50.6	46.7	47.3	48.4	49.4	50.4	51.4	52.0	
6 years +	46.3	47.0	47.9	49.0	50.0	51.0	51.8	45.7	46.3	47.3	48.4	49.4	50.4	50.9	47.3	47.9	48.9	49.9	50.9	51.9	52.5	
7 years +	46.7	47.3	48.3	49.4	50.5	51.5	52.2	46.2	46.9	47.8	48.9	49.9	50.9	51.6	47.8	48.3	49.3	50.3	51.3	52.3	52.9	
8 years +	47.0	47.6	48.7	49.8	50.8	51.9	52.6	46.6	47.3	48.6	49.7	50.7	51.7	52.3	48.3	48.9	50.1	51.1	52.1	53.1	53.7	
9 years +	47.4	48.1	49.1	50.1	51.2	52.6	53.0	47.2	47.7	48.6	49.7	50.7	51.7	52.3	48.6	49.1	50.1	51.1	52.1	53.1	53.7	
10 years +	47.7	48.3	49.3	50.4	51.6	52.6	53.2	47.4	48.1	49.1	50.1	51.1	52.1	52.8	48.9	49.4	50.4	51.4	52.4	53.4	54.0	
11 years +	48.1	48.6	49.6	50.7	51.8	52.9	53.5	47.8	48.4	49.5	50.6	51.7	52.7	53.3	49.3	49.9	50.9	51.9	52.9	53.9	54.5	
12 years +	48.4	49.1	50.1	51.1	52.2	53.5	54.4	48.3	49.0	49.9	51.0	52.1	53.1	53.8	49.7	50.2	51.2	52.2	53.2	54.2	54.8	
13 years +	48.8	49.4	50.4	51.6	52.8	53.8	54.6	48.7	49.3	50.4	51.5	52.7	53.7	54.4	50.4	50.9	51.9	52.9	53.9	54.9	55.5	
14 years +	49.1	49.7	50.8	52.0	53.2	54.3	55.0	49.3	49.9	51.0	52.0	53.1	54.1	54.7	51.0	51.5	52.5	53.5	54.5	55.5	56.1	
15 years +	49.6	50.2	51.3	52.5	53.8	54.8	55.6	49.5	50.2	51.2	52.3	53.5	54.6	55.7	51.2	51.7	52.7	53.7	54.7	55.7	56.3	
16 years +	50.1	50.7	51.8	53.0	54.2	55.5	56.1	49.7	50.1	51.1	52.2	53.4	54.4	56.0	51.4	51.9	52.9	53.9	54.9	55.9	56.5	
17 years +	50.4	51.1	52.2	53.3	54.5	55.6	56.2	50.1	50.5	51.4	52.5	53.6	54.6	55.0	51.4	51.9	52.9	53.9	54.9	55.9	56.5	
18 years +	50.7	51.3	52.3	53.4	54.6	55.8	56.6	49.6	50.2	51.3	52.3	53.5	54.4	54.9	51.3	51.8	52.8	53.8	54.8	55.8	56.4	

TABLE 9  
Selected percentiles of chest circumference distribution of children aged 1 through 21 years  
by sex and single year of age

Age	Boys					Girls									
	Percentiles					Percentiles									
	5	10	25	50	75	90	95	5	10	25	50	75	90	95	
Chest circumference (cm.)															
1 year +	39.6	40.6	42.1	43.7	45.4	47.1	48.2	38.4	39.3	40.8	42.5	44.2	45.9	46.9	
2 years +	42.3	43.2	44.7	46.4	48.1	49.7	50.6	41.1	42.0	43.5	45.2	46.9	48.5	49.5	
3 years +	44.0	45.1	46.7	48.3	50.0	51.7	52.7	43.2	44.2	45.6	47.3	48.9	50.6	51.6	
4 years +	45.9	46.8	48.3	50.0	51.5	53.0	54.0	44.8	45.7	47.1	48.7	50.5	52.1	53.1	
5 years +	47.2	48.2	49.6	51.3	53.0	54.8	55.8	46.1	47.1	48.5	50.2	51.9	53.7	54.9	
6 years +	48.4	49.5	51.0	52.8	54.7	56.5	57.7	47.2	48.3	49.8	51.5	53.4	55.2	56.6	
7 years +	50.0	51.0	52.5	54.4	56.5	58.3	59.6	48.5	49.6	51.3	53.2	55.3	57.5	58.9	
8 years +	51.3	52.2	53.9	56.1	58.0	60.3	61.7	50.0	51.0	52.6	54.7	56.8	58.9	60.3	
9 years +	52.7	53.8	55.6	57.5	59.6	61.7	63.3	51.0	52.1	54.0	56.1	58.2	60.6	62.5	
10 years +	54.0	55.0	57.0	59.2	61.5	63.8	65.4	52.7	53.8	55.8	57.9	60.5	63.4	65.5	
11 years +	55.2	56.4	58.5	60.8	63.2	65.9	68.0	54.0	55.4	57.5	60.0	63.0	66.3	69.1	
12 years +	56.6	57.8	60.2	62.8	65.7	68.6	70.5	55.4	57.0	59.6	62.6	66.3	70.8	73.5	
13 years +	58.2	60.0	62.3	65.3	68.8	72.3	74.7	57.9	59.5	62.1	66.0	70.8	74.7	76.9	
14 years +	60.0	61.8	64.6	68.0	71.7	75.6	77.5	59.9	62.0	65.6	69.8	73.8	77.7	80.2	
15 years +	62.1	64.2	67.6	71.4	74.9	78.2	79.9	61.7	64.1	67.7	71.7	75.6	79.1	81.4	
16 years +	64.8	67.2	70.7	74.2	77.4	80.3	82.1	63.4	65.5	69.1	73.0	77.1	80.2	82.5	
17 years +	68.3	69.9	73.0	75.8	78.9	81.6	83.5	64.3	66.4	70.4	74.1	78.0	81.6	84.1	
18 years +	70.1	71.7	74.2	77.1	80.0	82.7	84.6	64.5	66.8	70.5	74.1	78.2	82.1	84.4	



TABLE 10

Selected percentiles of standing height distribution of children aged 1 year through 21 years  
by sex and single year of age

Age	Boys										Girls									
	Percentiles										Percentiles									
	5	10	25	50	75	90	95	5	10	25	50	75	90	95	Standing height (cm.)					
1 year +	66.7	68.4	70.7	73.5	76.9	80.0	82.3	64.5	66.3	69.2	72.4	75.5	78.7	80.9						
2 years +	73.3	75.2	78.2	81.8	85.0	88.3	90.4	71.2	73.1	76.3	79.9	83.7	87.2	89.4						
3 years +	79.1	80.1	84.4	88.6	92.6	96.4	98.8	76.5	79.5	83.1	87.1	91.1	94.8	97.4						
4 years +	85.5	88.0	91.9	95.9	100.0	103.9	106.4	84.2	86.6	90.4	94.5	98.4	102.5	104.9						
5 years +	92.0	94.3	98.2	102.2	106.3	110.1	112.9	91.0	93.4	97.3	101.3	105.5	110.0	112.8						
6 years +	98.2	100.7	104.2	108.4	112.7	117.2	120.5	97.3	99.5	103.2	107.3	111.7	115.9	118.9						
7 years +	103.8	106.1	109.8	114.0	118.3	122.6	125.3	102.2	104.8	108.8	113.0	117.1	121.4	124.6						
8 years +	108.8	111.5	115.3	119.8	124.7	129.8	133.0	107.5	109.9	113.5	117.9	122.6	127.1	130.4						
9 years +	113.0	115.6	119.6	123.8	128.4	133.0	136.0	111.4	114.1	118.3	122.5	126.9	131.5	134.8						
10 years +	117.5	120.4	124.3	128.9	133.3	138.0	141.0	117.0	119.5	123.6	128.1	132.6	137.7	140.9						
11 years +	121.9	124.4	128.8	133.3	138.2	143.4	147.4	120.9	123.8	128.2	133.4	138.8	144.0	147.5						
12 years +	126.2	128.5	132.9	138.1	143.6	149.3	153.5	123.4	127.2	132.1	138.3	144.8	149.9	152.6						
13 years +	130.9	133.8	138.5	144.0	150.7	157.2	160.3	130.8	133.9	139.5	144.5	149.3	153.2	155.4						
14 years +	134.6	137.9	143.6	150.3	157.2	162.8	165.5	136.3	139.5	143.8	148.1	152.4	155.8	158.1						
15 years +	138.9	143.2	150.1	156.6	162.2	166.7	169.4	140.1	142.3	145.9	150.0	154.0	157.7	159.5						
16 years +	145.2	149.5	155.2	160.2	165.0	169.0	171.8	141.7	143.7	147.1	151.0	155.1	158.6	160.6						
17 years +	150.2	153.7	158.1	162.4	166.9	170.5	173.0	142.5	144.7	148.1	152.1	155.9	159.8	162.7						
18 years +	152.4	155.3	159.2	163.5	167.9	171.8	174.2	141.9	144.4	147.9	151.6	155.6	159.3	161.6						

TABLE II

Selected percentiles of sitting height distribution of children aged 1 through 21 years  
by sex and single year of age

Age	Boys					Girls								
	Percentiles					Percentiles								
	5	10	25	50	75	90	95	5	10	25	50	75	90	95
	Sitting height (cm.)													
1 year +	41.0	42.0	43.6	45.3	47.0	48.9	49.9	40.0	40.8	42.4	44.2	46.0	47.7	48.8
2 years +	43.7	45.1	46.9	48.8	50.7	52.5	53.7	42.7	43.7	45.5	47.4	49.4	51.3	52.6
3 years +	46.3	47.6	49.6	51.6	53.7	55.5	56.7	45.4	46.6	48.4	50.3	52.3	54.1	55.6
4 years +	49.2	50.5	52.4	54.5	56.5	58.4	59.6	48.3	49.5	51.3	53.3	55.4	57.6	59.2
5 years +	51.8	53.1	54.9	56.9	59.0	60.9	62.1	50.7	51.9	53.8	55.9	58.1	60.2	61.8
6 years +	54.2	55.4	57.3	59.4	61.6	63.7	65.0	53.0	54.2	56.2	58.4	60.6	62.8	64.2
7 years +	56.2	57.5	59.6	61.7	63.8	65.9	67.3	55.0	56.4	58.5	60.7	62.9	65.1	66.6
8 years +	58.2	59.7	61.7	63.8	65.1	68.2	69.7	57.2	58.5	60.5	62.8	65.3	67.9	70.3
9 years +	60.2	61.4	63.4	65.6	67.8	70.0	71.5	59.2	60.5	62.5	64.7	66.9	69.2	70.8
10 years +	61.9	63.1	65.3	67.5	69.7	71.9	73.3	60.9	62.3	64.5	66.7	69.2	71.7	73.5
11 years +	62.7	63.3	66.5	69.0	71.6	73.9	75.7	62.7	64.2	66.5	69.2	72.0	74.8	76.6
12 years +	65.2	66.5	68.6	71.1	73.8	76.7	78.7	64.9	66.4	68.9	71.8	75.0	78.0	79.4
13 years +	67.0	68.5	70.9	73.7	77.1	80.5	82.5	66.3	68.1	71.1	74.5	77.4	79.8	81.0
14 years +	68.4	70.2	72.9	76.6	80.6	83.9	85.8	69.6	71.5	74.2	76.9	79.3	81.4	82.9
15 years +	70.4	72.4	76.1	80.1	83.4	86.0	87.6	71.5	73.1	75.6	78.0	80.4	82.5	83.8
16 years +	73.3	75.5	79.3	82.4	85.2	87.5	88.9	72.8	74.2	76.6	78.9	81.2	83.1	84.2
17 years +	76.4	78.4	81.2	83.8	86.6	88.6	90.0	73.2	74.7	77.1	79.3	81.4	83.4	84.7
18 years +	77.8	79.5	82.0	84.6	86.9	89.2	90.5	73.3	74.8	77.0	79.3	81.6	83.7	84.7

TABLE 12  
Selected percentiles of weight distribution of children aged 1 through 21 years  
by sex and single year of age.

Age	Boys										Girls										
	Percentiles										Percentiles										
	5	10	25	50	75	90	95	5	10	25	50	75	90	95	5	10	25	50	75	90	95
	Weight (kg.)																				
1 year +	6.2	6.6	7.4	8.3	9.2	10.2	11.0	5.6	6.1	6.9	7.7	8.6	9.5	11.6							
2 years +	7.2	8.0	9.0	10.0	11.1	12.1	12.9	7.0	7.5	8.4	9.4	10.5	11.7	12.7							
3 years +	9.0	9.6	10.6	11.8	12.9	14.1	15.0	8.6	9.2	10.2	11.2	12.4	13.5	14.2							
4 years +	10.6	11.2	12.2	13.4	14.6	15.9	17.0	10.0	10.7	11.7	12.8	14.0	15.3	16.2							
5 years +	11.8	12.5	13.7	15.2	17.2	19.6	20.5	11.4	12.0	13.1	14.3	15.8	17.4	18.5							
6 years +	12.7	13.7	15.0	16.7	18.7	21.1	22.4	12.0	12.9	14.1	15.8	17.3	19.1	20.5							
7 years +	14.1	15.1	16.5	18.4	20.7	23.0	24.4	12.9	13.9	15.7	17.3	19.2	21.0	22.4							
8 years +	15.4	16.3	17.9	19.6	21.7	23.9	25.2	15.0	15.9	17.4	19.2	21.1	23.4	25.0							
9 years +	16.8	17.9	19.4	21.2	23.4	26.0	27.8	16.3	17.3	19.0	21.0	23.1	25.7	27.5							
10 years +	17.2	18.5	20.5	22.9	25.4	28.1	30.1	17.9	19.0	20.9	23.2	25.6	28.6	31.1							
11 years +	19.6	20.9	23.0	25.4	28.3	31.7	34.3	19.3	20.7	23.0	25.7	29.5	32.9	36.3							
12 years +	21.1	22.7	25.0	27.9	31.4	35.4	38.6	21.4	23.0	25.5	29.3	33.4	38.0	41.0							
13 years +	23.2	24.9	27.7	31.3	36.2	41.1	44.0	23.2	25.1	28.4	33.0	37.5	41.6	44.3							
14 years +	24.7	26.9	30.5	35.2	40.8	45.5	48.5	26.3	28.9	33.0	37.0	41.2	45.3	47.8							
15 years +	27.3	29.9	34.5	39.9	44.9	49.4	52.3	28.7	31.6	35.1	39.1	43.3	47.1	50.3							
16 years +	31.1	34.1	39.0	43.6	47.9	52.4	55.2	31.7	34.2	37.4	41.1	44.9	48.7	51.9							
17 years +	35.3	37.8	41.7	45.6	50.0	54.4	57.7	33.6	35.5	38.4	42.0	45.8	50.5	53.2							
18 years +	37.4	39.7	43.5	47.4	51.5	55.8	58.5	34.1	35.8	38.5	42.3	46.6	50.8	53.9							



TABLE  
Selected percentiles of weight distribution  
successive grouped height intervals,

Age and height (cm.)	Mean Weight	Percentile						
		5	10	25	50	75	90	95
Weight (kg.)								
1	2	3	4	5	6	7	8	9
1 year +								
65.0—69.9	7.31	5.64	5.95	6.30	7.04	7.62	8.23	8.60
70.0—74.9	7.81	6.13	6.44	6.34	7.52	8.15	8.83	9.25
75.0—79.9	8.80	6.97	7.36	7.94	8.54	9.12	9.86	10.46
80.0—84.9	9.88	7.80	8.25	8.87	9.90	10.38	11.13	11.60
2 years +								
70.0—74.9	7.82	6.21	6.49	6.99	7.57	8.16	8.61	9.00
75.0—79.9	8.98	7.26	7.55	8.08	8.70	9.33	10.00	10.47
80.0—84.9	10.12	8.32	8.67	9.19	9.81	10.48	11.19	11.67
85.0—89.9	11.17	9.25	9.66	10.22	10.85	11.55	12.35	12.94
90.0—94.9	12.20	9.90	10.58	11.18	11.90	12.69	13.13	14.27
3 years +								
75.0—79.9	9.11	7.28	7.63	8.24	8.83	9.46	10.20	10.74
80.0—84.9	10.26	8.53	8.78	9.31	9.90	10.66	11.43	12.06
85.0—89.9	11.30	9.35	9.72	10.37	11.06	11.70	12.41	12.92
90.0—94.9	12.42	10.48	10.91	11.40	12.07	12.88	13.60	14.23
95.0—99.9	13.55	11.27	11.73	12.43	13.23	14.10	15.12	15.69
100.0—104.9	14.79	12.73	13.17	13.69	14.58	15.08	16.43	16.88
4 years +								
80.0—84.9	10.40	8.37	8.92	9.49	10.07	10.79	11.65	12.04
85.0—89.9	11.35	9.55	9.90	10.40	11.02	11.78	12.58	13.03
90.0—94.9	12.43	10.48	10.88	11.43	12.13	12.93	13.63	14.04
95.0—99.9	13.45	11.41	11.82	12.41	13.18	13.92	14.71	15.34
100.0—104.9	14.62	12.35	12.89	13.52	14.36	15.20	15.86	16.41
105.0—109.9	15.93	13.61	13.98	14.81	15.45	16.68	17.74	18.15
5 years +								
85.0—89.9	11.14	9.56	9.73	10.12	10.72	11.81	12.46	12.90
90.0—94.9	12.38	10.45	10.85	11.45	12.04	12.81	13.56	14.08
95.0—99.9	13.37	11.37	11.74	12.34	13.11	13.83	14.49	15.21
100.0—104.9	14.65	12.53	12.91	13.59	14.37	15.21	15.98	16.50
105.0—109.9	15.83	13.72	14.12	14.76	15.52	16.36	17.22	17.75
110.0—114.9	17.24	14.79	15.37	15.53	16.96	18.02	18.94	19.60

13

of boys aged 1 through 18 years at  
by single year of age.

Age and height (cms.)	Mean Weight	Percentile						
		5	10	25	50	75	90	95
Weight (kg.)								
1	2	3	4	5	6	7	8	9
6 years +								
95.0—99.9	13.30	11.41	11.84	12.38	13.04	13.72	14.40	15.03
100.0—104.9	14.53	12.34	12.79	13.46	14.22	15.03	15.78	16.24
105.0—109.9	15.75	13.61	14.02	14.69	15.51	16.30	17.12	17.59
110.0—114.9	17.24	14.85	15.28	16.06	16.98	17.88	19.06	19.42
115.0—119.9	18.82	16.18	16.62	17.43	18.44	19.67	20.72	21.60
120.0—124.9	20.56	17.72	18.21	18.98	20.43	21.65	22.52	22.99
7 years +								
100.0—104.9	14.66	12.75	13.12	13.60	14.30	15.14	16.00	16.59
105.0—109.9	15.79	13.51	14.04	14.71	15.48	16.26	17.33	17.96
110.0—114.9	17.26	14.86	15.32	16.08	17.00	17.42	18.83	19.45
115.0—119.9	18.78	16.21	16.67	17.55	18.42	19.60	20.48	21.11
120.0—124.9	20.42	17.51	18.02	19.17	20.12	21.24	22.52	22.92
125.0—129.9	22.52	19.52	20.03	21.24	22.30	23.47	24.48	25.18
8 years +								
105.0—109.9	15.83	13.69	14.02	14.73	15.56	16.33	17.43	17.87
110.0—114.9	17.26	14.96	15.35	16.06	16.98	17.90	18.82	19.45
115.0—119.9	18.85	16.38	16.86	17.70	18.48	19.57	20.49	21.27
120.0—124.9	20.31	17.60	18.08	19.18	20.14	21.10	22.38	22.30
125.0—129.9	22.47	19.45	19.96	20.99	22.26	23.50	24.70	25.05
130.0—134.9	24.84	21.84	22.41	23.17	24.28	25.85	27.20	28.43
9 years +								
110.0—114.9	17.29	14.82	15.32	16.06	17.09	17.88	18.84	21.43
115.0—119.9	19.03	16.46	16.93	17.75	18.73	19.80	20.72	23.10
120.0—124.9	20.56	17.89	18.34	19.18	20.21	21.43	21.94	25.40
125.0—129.9	22.41	19.35	20.01	20.98	22.22	23.35	24.48	28.63
130.0—134.9	24.61	21.05	21.75	22.83	24.19	25.76	27.20	30.66
135.0—139.9	26.90	23.16	23.78	25.22	26.60	28.04	29.54	32.66
10 years +								
115.0—119.9	18.88	16.52	16.93	17.73	18.53	19.50	20.62	21.47
120.0—124.9	20.75	17.80	18.38	19.40	20.49	21.61	22.51	23.41
125.0—129.9	22.80	19.63	20.19	21.31	22.49	23.69	24.60	25.90
130.0—134.9	24.71	21.49	22.08	23.05	24.40	25.69	27.39	28.25
135.0—139.9	26.91	23.02	23.68	25.01	26.62	28.11	29.54	30.77
140.0—144.9	29.26	24.81	26.03	27.05	28.78	30.58	33.35	34.11

Table 13

1	2	3	4	5	6	7	8	9
<b>11 years +</b>								
115.0—119.9	19.31	15.49	16.84	18.09	18.91	20.28	21.14	21.97
120.0—124.9	20.92	17.93	18.55	19.51	20.64	21.79	22.65	23.65
125.0—129.9	22.94	19.77	20.24	21.38	22.70	24.00	25.07	25.79
130.0—134.9	24.90	21.30	22.11	23.22	24.57	25.98	27.13	28.49
135.0—139.9	27.30	23.20	24.10	25.34	26.96	28.48	29.86	31.26
140.0—144.9	29.88	25.23	26.39	27.80	29.34	31.14	33.31	35.55
145.0—149.9	32.46	28.02	28.93	30.32	31.89	33.99	35.95	36.44
<b>12 years +</b>								
120.0—124.9	21.23	18.34	19.08	19.69	20.95	21.12	22.88	23.85
125.0—129.9	22.81	19.65	20.13	21.27	22.48	23.78	25.03	25.89
130.0—134.9	25.06	21.79	22.40	23.40	24.68	26.11	27.49	28.61
135.0—139.9	27.43	23.38	24.18	25.45	27.09	28.71	30.23	31.59
140.0—144.9	29.94	25.68	26.46	27.85	29.52	31.40	33.07	34.58
145.0—149.9	32.59	28.26	29.00	30.59	32.32	34.03	35.92	36.95
150.0—154.9	35.58	30.66	31.40	33.21	35.47	37.42	39.49	40.55
155.0—159.9	39.10	33.84	34.61	35.95	38.67	41.62	43.34	44.76
<b>13 years +</b>								
125.0—129.9	23.09	20.13	20.79	21.72	22.67	23.87	25.08	26.05
130.0—134.9	25.43	21.91	22.47	23.59	25.08	26.66	27.53	28.92
135.0—139.9	27.61	23.92	24.59	25.80	27.24	28.85	30.49	31.28
140.0—144.9	30.29	25.88	26.84	28.10	29.83	31.67	33.76	35.13
145.0—149.9	33.15	28.19	29.15	30.71	32.66	34.76	37.13	38.57
150.0—154.9	36.44	31.70	32.38	33.82	36.10	38.34	40.66	41.78
155.0—159.9	39.82	34.45	35.53	37.07	39.23	41.99	44.07	45.87
160.0—164.9	44.23	38.21	39.08	40.85	43.77	46.78	49.45	50.60
<b>14 years +</b>								
130.0—134.9	25.18	21.52	22.06	23.25	24.78	26.27	28.15	28.41
135.0—139.9	27.85	23.39	24.06	26.05	27.52	29.07	30.30	32.19
140.0—144.9	30.20	25.75	26.56	27.99	29.89	31.82	33.48	34.42
145.0—149.9	33.50	28.64	29.46	31.04	33.20	35.18	37.39	38.69
150.0—154.9	36.62	31.35	32.19	33.78	36.25	38.63	40.81	42.10
155.0—159.9	40.19	33.97	35.30	37.30	39.78	42.59	44.86	45.84
160.0—164.9	43.61	37.08	38.36	40.98	43.20	45.79	48.04	49.90
165.0—169.9	47.39	41.00	41.99	44.05	46.17	49.85	52.90	54.44



(Contd.)

1	2	3	4	5	6	7	8	9
<b>15 years +</b>								
135.0—139.9	27.81	23.54	24.34	26.22	27.71	29.32	30.81	30.89
140.0—144.9	30.67	26.18	27.27	28.46	30.24	31.98	34.37	35.55
145.0—149.9	33.68	28.45	29.55	31.22	33.30	35.32	38.01	40.03
150.0—154.9	36.84	31.47	32.34	34.32	36.30	38.56	41.61	43.07
155.0—159.9	40.80	34.90	36.55	38.49	40.78	43.68	45.81	47.99
160.0—164.9	44.16	37.37	38.46	41.03	43.56	46.60	49.68	51.68
165.0—169.9	47.47	40.46	42.20	44.45	47.08	50.09	52.87	54.13
170.0—174.9	50.95	45.60	46.08	47.74	49.96	53.64	56.18	57.70
<b>16 years +</b>								
140.0—144.9	30.42	27.12	27.52	28.69	29.94	31.67	33.02	35.66
145.0—149.9	33.78	29.54	30.20	31.64	33.32	35.07	37.79	38.50
150.0—154.9	38.38	32.47	33.31	35.39	38.02	40.66	43.13	45.21
155.0—159.9	41.62	35.54	36.62	38.65	41.27	44.17	46.62	47.79
160.0—164.9	45.20	38.91	40.28	42.23	44.76	47.59	50.20	51.90
165.0—169.9	47.85	40.50	41.64	44.66	47.36	50.86	53.90	55.03
170.0—174.9	50.88	44.70	45.64	47.90	50.92	53.23	55.26	56.59
<b>17 years +</b>								
145.0—149.9	34.61	29.35	30.21	31.52	34.93	36.97	38.52	39.94
150.0—154.9	39.33	32.92	33.97	36.54	39.24	41.59	44.19	45.24
155.0—159.9	42.53	36.05	37.38	39.68	42.12	44.72	47.32	48.98
160.0—164.9	45.87	38.55	40.13	42.72	45.27	48.54	51.09	53.48
165.0—169.9	48.89	41.22	42.87	45.42	48.38	51.69	54.45	56.97
170.0—174.9	51.99	44.45	46.27	48.71	51.65	54.43	57.53	58.67
<b>18 years +</b>								
150.0—154.9	41.50	36.53	36.91	38.16	41.45	43.98	45.55	46.42
155.0—159.9	43.73	36.79	38.08	40.63	43.34	46.05	49.01	50.82
160.0—164.9	47.18	40.53	41.86	43.88	46.68	49.65	52.48	54.36
165.0—169.9	49.52	42.51	43.58	45.96	49.03	52.24	55.67	56.98
170.0—174.9	52.33	45.75	46.58	48.85	51.80	54.83	58.52	60.11

TABLE

Selected percentiles of weight distribution  
successive grouped height intervals,

Age and height (cm.)	Mean Weight	Percentile						
		5	10	25	50	75	90	95
Weight (kg.)								
1	2	3	4	5	6	7	8	9
1 year +								
60.0—64.9	5.74	3.62	4.61	4.93	5.34	5.98	6.73	7.10
65.0—69.9	6.57	5.03	5.33	5.82	6.29	6.78	7.40	7.69
70.0—74.9	7.61	6.01	6.35	6.78	7.33	7.93	8.53	8.93
75.0—79.9	8.42	6.56	6.98	7.54	8.19	8.83	9.41	9.83
80.0—84.9	9.54	7.09	8.02	8.85	9.36	10.01	10.80	11.26
2 years +								
65.0—69.9	7.09	5.28	5.55	6.04	6.74	7.47	8.63	8.90
70.0—74.9	7.64	6.08	6.37	6.81	7.41	7.97	8.66	8.95
75.0—79.9	8.78	7.02	7.36	7.90	8.47	9.09	9.76	10.23
80.0—84.9	9.78	8.01	8.31	8.86	9.48	10.17	10.83	11.40
85.0—89.9	10.74	8.73	9.13	9.75	10.45	11.19	11.99	12.43
90.0—94.9	12.06	9.99	10.48	10.95	11.73	12.86	13.55	14.15
3 years +								
75.0—79.9	9.08	7.31	7.66	8.07	8.75	9.40	10.35	11.01
80.0—84.9	10.16	8.40	8.70	9.16	9.81	10.56	11.24	11.82
85.0—89.9	11.07	9.30	9.61	10.14	10.79	11.48	12.19	12.64
90.0—94.9	12.09	10.20	10.57	11.11	11.85	12.54	13.33	13.77
95.0—99.9	13.30	11.06	11.49	12.24	13.01	13.87	14.76	15.45
4 years +								
80.0—84.9	10.39	8.65	8.87	9.39	10.13	10.84	11.56	11.99
85.0—89.9	11.13	9.24	9.60	10.15	10.84	11.58	12.29	12.87
90.0—94.9	12.24	10.29	10.65	11.24	11.94	12.68	13.43	14.00
95.0—99.9	13.19	11.11	11.51	12.13	12.90	13.68	14.47	15.02
100.0—104.9	14.47	12.33	12.75	13.33	14.21	15.14	15.86	16.37
105.0—109.9	15.68	13.68	14.00	14.56	15.28	16.24	17.32	17.80
5 years +								
85.0—89.9	11.31	9.58	9.77	10.23	11.00	11.63	12.68	13.14
90.0—94.9	12.17	10.20	10.56	11.15	11.65	12.57	13.42	13.98
95.0—99.9	13.21	11.20	11.56	12.18	12.97	13.70	14.45	14.95
100.0—104.9	14.49	13.12	13.19	13.87	14.84	15.71	16.72	17.07
105.0—109.9	15.66	13.40	13.77	14.46	15.32	16.28	17.20	17.85
110.0—114.9	17.03	14.48	14.99	15.80	16.82	17.90	18.71	19.21
115.0—119.9	18.95	16.52	17.28	17.70	18.79	19.50	20.55	21.06

14

of girls aged 1 through 18 years at  
by single year of age.

Age and height (cm.)	Mean Weight	Percentile						
		5	10	25	50	75	90	95
Weight (kg.)								
1	2	3	4	5	6	7	8	9
6 years +								
90.0—94.9	12.16	9.70	10.32	11.30	12.04	12.66	13.33	13.72
95.0—99.9	13.15	11.27	11.57	12.13	12.83	13.49	14.49	15.26
100.0—104.9	14.36	12.31	12.71	13.29	14.07	14.94	15.73	16.27
105.0—109.9	15.63	13.36	13.75	14.53	15.38	16.20	17.08	17.65
110.0—114.9	17.16	14.64	15.22	15.93	16.90	17.84	18.74	19.46
115.0—119.9	18.77	16.04	16.54	17.47	18.37	19.52	20.74	21.81
120.0—124.9	20.32	16.96	17.78	18.92	20.36	21.27	22.33	22.75
7 years +								
95.0—99.9	13.04	11.08	11.36	11.91	12.68	13.63	14.57	14.81
100.0—104.9	14.32	12.11	12.47	13.22	13.99	14.91	15.73	16.34
105.0—109.9	15.70	13.34	13.77	14.50	15.36	16.30	17.32	18.07
110.0—114.9	17.20	14.73	15.19	16.01	16.87	17.85	18.89	19.52
115.0—119.9	18.70	15.99	16.42	17.38	18.38	19.50	20.59	21.30
120.0—124.9	20.61	17.40	18.08	19.14	20.29	21.54	22.93	23.68
125.0—129.9	22.32	18.98	19.99	20.71	22.29	23.16	24.30	24.98
8 years +								
100.0—104.9	14.96	11.28	12.42	13.81	14.51	15.59	16.30	16.59
105.0—109.9	15.88	13.98	14.07	14.75	15.56	16.50	17.53	18.00
110.0—114.9	17.23	14.70	15.17	15.95	16.96	17.93	18.84	19.57
115.0—119.9	18.85	16.21	16.71	17.58	18.54	19.66	20.56	21.18
120.0—124.9	20.67	17.83	18.29	19.22	20.21	21.47	22.74	23.58
125.0—129.9	22.39	19.31	19.69	20.75	22.16	23.34	24.79	25.85
130.0—134.0	24.44	20.75	21.66	22.83	24.21	25.56	26.99	27.86
9 years +								
105.0—109.9	15.61	13.45	14.07	14.42	15.35	16.22	17.03	17.54
110.0—114.9	17.28	14.76	15.17	15.97	16.81	17.97	19.34	20.25
115.0—119.9	18.95	16.30	16.69	17.54	18.62	19.83	20.99	21.55
120.0—124.9	20.73	17.73	18.24	19.26	20.38	21.65	22.81	23.70
125.0—129.9	22.44	19.28	19.88	20.78	22.21	23.41	24.85	25.61
130.0—134.9	24.73	20.40	21.62	22.74	24.43	25.97	27.44	28.85
135.0—139.9	27.50	22.53	25.07	26.03	27.41	28.92	30.93	32.07



Table 14

1	2	3	4	5	6	7	8	9
<b>10 years +</b>								
110.0—114.9	17.68	15.05	15.24	16.44	17.24	18.46	19.69	20.55
115.0—119.9	18.75	15.87	17.47	17.66	18.50	19.48	20.36	21.02
120.0—124.9	20.88	17.84	18.43	19.31	20.51	21.89	23.03	23.96
125.0—129.9	22.81	19.42	20.00	21.19	22.58	23.83	25.06	25.81
130.0—134.9	25.03	21.86	22.28	23.16	24.46	26.18	27.76	28.59
135.0—139.9	28.54	23.71	26.00	26.71	27.81	29.43	31.40	32.64
140.0—144.9	29.74	24.55	27.08	27.33	29.27	31.78	33.92	35.12
145.0—149.9	32.80	28.78	29.89	31.13	32.61	35.58	37.90	38.80
<b>11 years +</b>								
115.0—119.9	18.91	16.35	16.77	17.73	18.52	19.45	20.96	21.73
120.0—124.9	21.12	18.32	18.79	19.51	20.68	21.99	23.24	24.16
125.0—129.9	22.96	19.68	20.31	21.37	22.59	23.98	25.26	26.13
130.0—134.9	25.26	21.35	22.06	23.26	24.86	26.52	28.44	29.67
135.0—139.9	27.61	23.20	24.02	25.37	27.12	29.18	31.21	32.44
140.0—144.9	30.58	25.32	26.60	27.85	29.80	32.13	35.42	36.73
145.0—149.9	34.00	27.86	29.05	30.97	33.06	36.58	39.55	41.12
<b>12 years +</b>								
120.0—124.9	21.20	18.37	18.94	19.98	20.98	22.14	22.98	23.53
125.0—129.9	23.15	19.61	20.49	21.84	22.88	24.19	25.35	26.23
130.0—134.9	25.35	21.52	22.36	23.46	24.88	26.89	28.56	29.84
135.0—139.9	28.25	24.09	25.32	26.65	28.48	30.06	32.40	33.96
140.0—144.9	31.14	26.11	27.01	28.60	30.54	33.02	35.55	36.79
145.0—149.9	34.24	28.47	29.53	31.40	33.45	36.56	39.43	40.71
150.0—154.9	38.30	31.92	32.78	34.66	37.28	40.71	43.93	44.74
155.0—159.9	40.01	33.64	34.47	36.46	39.16	42.86	44.45	45.70
<b>13 years +</b>								
125.0—129.9	23.34	19.71	28.17	21.38	23.06	24.61	26.35	27.00
130.0—134.9	25.60	21.87	22.48	23.50	25.33	26.78	28.28	30.11
135.0—139.9	28.69	23.89	24.79	26.28	28.03	30.40	32.41	34.58
140.0—144.9	32.47	26.56	27.60	29.55	31.87	34.67	37.39	39.15
145.0—149.9	35.38	28.85	30.00	32.37	34.90	37.91	40.57	42.10
150.0—154.9	38.32	32.06	33.03	35.24	38.30	40.88	43.38	44.96
155.0—159.9	41.01	34.20	35.67	37.78	40.48	43.47	46.63	47.66

(Contd.)

1	2	3	4	5	6	7	8	9
<b>14 years +</b>								
135.0—139.9	29.87	23.12	25.56	27.09	29.02	31.73	35.00	36.21
140.0—144.9	33.55	26.98	28.11	30.45	33.15	36.12	38.89	40.25
145.0—149.9	36.94	30.15	31.30	33.65	36.35	39.30	42.82	44.61
150.0—154.9	39.81	32.78	33.90	36.17	39.34	42.74	45.59	47.60
155.0—159.9	42.38	35.18	36.46	38.50	42.13	44.86	48.39	51.11
<b>15 years +</b>								
135.0—139.9	31.09	26.26	27.02	28.69	31.04	32.55	35.11	36.19
140.0—144.9	35.04	27.87	29.48	32.01	34.89	37.56	40.07	42.23
145.0—149.9	37.92	30.60	31.96	34.48	37.80	40.68	43.60	45.20
150.0—154.9	40.54	33.47	34.18	36.84	40.08	43.43	46.73	49.31
155.0—159.9	43.32	35.04	36.48	39.77	42.93	46.21	50.09	52.03
<b>16 years +</b>								
140.0—144.9	36.67	30.14	31.10	33.18	35.98	39.35	42.50	44.34
145.0—149.9	39.41	32.37	33.89	35.97	38.80	42.06	45.47	47.17
150.0—154.9	41.89	34.25	35.84	38.22	41.46	44.52	47.93	50.11
155.0—159.9	44.20	36.89	38.08	40.80	43.98	46.91	49.86	51.91
160.0—164.9	45.94	37.89	39.35	42.25	45.30	48.61	52.57	53.64
<b>17 years +</b>								
140.0—144.9	37.87	31.93	33.38	35.14	37.39	40.19	42.23	43.78
145.0—149.9	40.33	33.12	34.48	36.66	39.81	43.00	46.46	48.97
150.0—154.9	42.57	34.93	36.32	38.74	42.20	45.19	48.82	51.19
155.0—159.9	45.25	36.79	38.26	41.30	44.75	48.18	52.72	54.40
160.0—164.9	46.99	37.97	39.27	42.47	46.21	51.32	54.48	55.86
<b>18 years +</b>								
140.0—144.9	36.77	30.35	31.55	33.88	36.74	38.95	41.74	42.35
145.0—149.9	40.05	33.13	33.92	36.76	39.24	42.76	45.87	47.69
150.0—154.9	43.10	34.93	36.70	39.68	42.54	45.94	49.57	51.12
155.0—159.9	45.99	38.01	39.25	41.84	45.53	48.76	52.89	55.70
160.0—164.9	46.22	40.19	41.00	43.24	46.08	48.53	54.98	56.25

TABLE 15  
Percentage distribution of grouped standing heights of boys aged 1 through 18 years by single year of age ;  
with actual number of boys measured.

Standing height (cm.)	Age in years																	
	1+	2+	3+	4+	5+	6+	7+	8+	9+	10+	11+	12+	13+	14+	15+	16+	17+	18+
Total...	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	(2906)	(2824)	(3057)	(3413)	(3484)	(3816)	(3711)	(3957)	(3873)	(4065)	(3879)	(4052)	(3875)	(3621)	(3609)	(3451)	(3235)	(3006)
	0.2	0.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
50.0—54.9	0.3	0.2	0.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
55.0—59.9	2.1	0.6	0.2	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...
60.0—64.9	16.9	1.3	0.6	0.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
65.0—69.9	42.2	7.4	2.4	0.7	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...
70.0—74.9	28.4	27.0	6.4	1.7	0.5	...	...	...	...	...	...	...	...	...	...	...	...	...
75.0—79.9	7.9	38.3	18.2	3.1	1.0	...	...	...	...	...	...	...	...	...	...	...	...	...
80.0—84.9	1.6	19.1	31.2	11.9	1.6	...	...	...	...	...	...	...	...	...	...	...	...	...
85.0—89.9	0.2	4.6	26.8	28.5	9.2	1.3	0.2	0.2	...	...	...	...	...	...	...	...	...	...
90.0—94.9	0.2	1.0	10.8	31.6	23.4	6.0	0.9	0.3	...	...	...	...	...	...	...	...	...	...
95.0—99.9	...	0.4	2.3	15.4	32.9	21.3	5.8	1.3	0.2	0.2	...	...	...	...	...	...	...	...
100.0—104.9	...	...	0.6	5.6	20.0	31.6	18.3	5.3	1.0	0.5	0.0	...	...	...	...	...	...	...
105.0—109.9	...	...	0.4	1.0	7.1	23.8	30.7	18.0	6.6	1.9	0.3	0.2	0.8	...	...	...	...	...
110.0—114.9	...	...	...	0.4	2.3	10.6	25.6	29.4	18.6	6.3	2.0	0.2	0.1	...	...	...	...	...
115.0—119.9	...	...	...	...	1.2	3.8	12.8	25.8	30.5	19.6	8.6	2.6	0.6	0.3	...	...	...	...
120.0—124.9	...	...	...	...	0.6	1.2	3.8	13.2	24.0	29.4	20.0	10.5	3.0	0.8	0.3	0.1	...	...
125.0—129.9	...	...	...	...	0.2	0.4	1.0	4.9	12.7	23.9	28.8	20.5	9.9	4.2	1.3	0.3	0.1	...
130.0—134.9	...	...	...	...	...	0.0	0.3	1.3	4.0	12.3	22.2	24.1	17.3	9.0	4.2	1.0	0.2	0.1
135.0—139.9	...	...	...	...	...	...	0.1	0.3	1.8	4.3	10.8	20.4	23.2	15.9	7.0	2.8	0.9	0.4
140.0—144.9	...	...	...	...	...	...	0.0	0.0	0.4	1.4	4.6	12.3	19.0	18.2	11.7	6.0	2.4	1.3
145.0—149.9	...	...	...	...	...	...	...	0.0	0.1	0.2	1.9	5.0	12.7	19.2	18.3	13.6	8.5	6.8
150.3—154.9	...	...	...	...	...	...	...	...	0.1	0.0	0.6	2.4	8.8	15.7	22.9	24.4	21.8	20.2
155.0—159.9	...	...	...	...	...	...	...	...	0.0	0.0	0.2	0.9	3.8	10.9	19.8	26.7	30.7	30.3
160.0—164.9	...	...	...	...	...	...	...	...	0.0	...	0.1	0.3	1.4	4.4	10.4	17.3	23.7	25.3
165.0—169.9	...	...	...	...	...	...	...	...	...	...	...	...	0.2	1.0	3.5	5.9	8.7	11.0
170.0—174.9	...	...	...	...	...	...	...	...	...	...	...	...	...	0.4	0.6	1.5	2.3	3.3
175.0—179.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.4	0.6	1.0
180.0—184.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	0.2
185.0—189.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1
190.0—194.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Figures in parentheses are the number of children





TABLE 17

Percentage distribution of grouped weights of boys aged 1 through 18 years by single year of age ;  
with actual number of boys measured.

Weight (kg.)	Age in years																	
	1+	2+	3+	4+	5+	6+	7+	8+	9+	10+	11+	12+	13+	14+	15+	16+	17+	18+
Total...	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	(2906)	(2824)	(3057)	(3413)	(3484)	(3816)	(3711)	(3957)	(3873)	(4065)	(3879)	(4052)	(3875)	(3621)	(3609)	(3451)	(3235)	(3006)
	Percentage distribution																	
2.0—4.9	1.0	0.6	0.3	0.1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5.0—7.9	46.6	10.2	1.9	0.6	0.3	..	..	0.4	0.2	0.0	..	..	..	..	..	..	..	..
8.0—10.9	49.5	68.1	36.4	11.2	2.2	1.0	0.8	0.8	0.3	0.2	..	..	..	..	..	..	..	..
11.0—13.9	2.7	18.4	51.1	53.8	27.4	11.0	3.3	16.1	5.5	4.1	0.7	0.2	0.2	0.1	0.1	0.0	..	..
14.0—16.9	0.2	2.3	9.3	30.3	44.8	44.8	29.9	36.3	25.5	15.3	4.2	1.6	0.5	0.4	0.3	0.1	..	..
17.0—19.9	..	0.4	1.0	3.4	18.7	25.9	34.0	..	..	..	..	..	..	..	..	..	..	..
20.0—22.9	..	..	0.0	0.5	6.2	14.3	23.6	10.1	18.1	33.7	20.8	10.4	3.3	1.2	0.5	0.3	0.0	..
23.0—25.9	..	..	..	0.1	0.4	2.4	6.9	2.1	6.0	28.6	33.3	23.6	11.5	5.6	2.0	0.6	0.4	0.3
26.0—28.9	..	..	..	..	..	0.4	1.2	0.6	2.2	10.6	20.8	23.9	17.9	9.8	4.6	1.2	0.8	0.4
29.0—31.9	..	..	..	..	..	0.2	0.3	0.3	0.5	4.9	11.8	21.3	22.3	16.0	8.6	3.9	1.5	0.5
32.0—34.9	..	..	..	..	..	..	..	..	0.2	1.6	4.1	10.3	16.5	17.3	11.6	6.6	2.0	1.4
35.0—37.9	..	..	..	..	..	..	..	..	0.1	0.6	2.2	4.7	9.8	14.0	12.7	8.1	5.5	3.2
38.0—40.9	..	..	..	..	..	..	..	..	0.0	0.3	1.2	2.3	8.5	13.0	15.8	15.7	12.4	8.2
41.0—43.9	..	..	..	..	..	..	..	..	..	0.1	0.4	1.3	4.5	9.0	14.5	16.2	15.5	13.4
44.0—46.9	..	..	..	..	..	..	..	..	..	0.0	0.2	0.9	2.4	6.8	13.0	18.6	20.8	21.0
47.0—49.9	..	..	..	..	..	..	..	..	..	..	0.2	0.3	1.5	3.8	8.8	12.9	17.5	20.4
50.0—52.9	..	..	..	..	..	..	..	..	..	..	0.1	0.2	0.5	1.4	3.4	7.5	10.5	12.9
53.0—55.9	..	..	..	..	..	..	..	..	..	..	..	..	0.3	0.7	2.3	4.7	6.8	8.8
56.0—58.9	..	..	..	..	..	..	..	..	..	..	..	..	0.2	0.4	0.9	1.6	2.7	4.6
59.0—61.9	..	..	..	..	..	..	..	..	..	..	..	..	0.1	0.3	0.6	1.3	1.9	2.5
62.0—64.9	..	..	..	..	..	..	..	..	..	..	..	..	..	0.2	0.3	0.4	0.8	1.0
65.0—67.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.0	0.2	0.4	0.6
68.0—70.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.1	0.3	0.5
71.0—73.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.2	0.3

Figures in parentheses are the number of children

TABLE 18

Percentage distribution of grouped weights of girls aged 1 through 18 years by single year of age :  
with actual number of girls measured.

Weight (kg.)	Age in years																	
	1+	2+	3+	4+	5+	6+	7+	8+	9+	10+	11+	12+	13+	14+	15+	16+	17+	18+
Total...	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	(2654)	(2603)	(2956)	(2940)	(3221)	(3665)	(3603)	(3487)	(3556)	(3646)	(3442)	(3426)	(3168)	(2900)	(2644)	(2534)	(2115)	(1712)
	Percentage distribution																	
2.0-4.9	1.7	0.8	0.3	0.2	0.3	1.8	1.0	0.6	0.3	0.2	0.1	0.5	0.3	0.2	0.4	0.3	0.5	0.4
5.0-7.9	64.3	18.6	2.5	0.8	4.1	21.0	6.0	2.5	0.4	0.4	0.8	1.5	0.8	0.7	0.8	0.5	0.2	0.4
8.0-10.9	33.0	67.6	50.4	18.1	40.8	50.9	39.6	20.1	8.6	2.5	5.5	1.5	0.8	1.8	1.2	0.8	1.6	1.0
11.0-13.9	1.0	11.3	41.4	57.2	44.4	19.8	35.8	37.8	26.5	14.3	19.6	7.4	2.7	2.6	6.5	4.3	2.2	6.0
14.0-16.9	..	1.4	5.1	21.8	9.0	4.9	14.0	28.6	40.1	32.3	28.6	18.9	8.3	5.4	15.0	9.1	6.6	12.1
17.0-19.9	..	0.3	0.3	0.3	1.3	0.1	3.0	7.8	16.0	30.4	19.5	20.0	12.8	12.4	21.6	14.5	13.9	20.7
20.0-22.9	..	..	..	..	0.1	0.2	0.4	2.0	4.6	11.5	13.5	20.8	17.9	17.5	13.7	22.1	21.1	17.7
23.0-25.9	..	..	..	..	..	0.1	0.1	0.4	2.0	4.5	6.1	14.7	18.8	18.0	16.5	22.1	18.5	17.8
26.0-28.9	..	..	..	..	..	..	0.1	0.2	1.0	1.8	3.2	7.4	13.8	17.0	21.6	15.1	17.5	13.9
29.0-31.9	..	..	..	..	..	..	..	..	0.2	0.9	1.8	4.5	11.8	11.0	13.7	16.3	9.3	4.4
32.0-34.9	..	..	..	..	..	..	..	..	0.1	0.3	0.8	2.0	6.6	7.7	11.6	8.5	5.1	3.0
35.0-37.9	..	..	..	..	..	..	..	..	0.0	0.2	0.3	1.5	3.9	3.8	5.7	2.9	3.0	1.4
38.0-40.9	..	..	..	..	..	..	..	..	..	0.1	0.1	0.7	1.5	1.3	2.3	2.3	1.2	1.2
41.0-43.9	..	..	..	..	..	..	..	..	..	0.1	0.1	0.1	0.7	0.6	1.2	0.9	0.8	0.3
44.0-46.9	..	..	..	..	..	..	..	..	..	..	..	..	0.1	..	0.3	0.2	0.2	0.1
47.0-49.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
50.0-52.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
53.0-55.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
56.0-58.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
59.0-61.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
62.0-64.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65.0-67.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Figures in parentheses are the number of children



TABLE 19

**Means and standard deviations (S. D.) for bicristal diameter of male infants and boys aged 1 through 21 years by region (States of India) and age ; with actual number of children measured.**

Age	Region																	
	Andhra Pradesh			Delhi			Jammu & Kashmir			Kerala			Madhya Pradesh			Madras		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Bicristal diameter (cm.)																		
Less than 3 months	31	8.7	0.91	—	—	—	2	9.5	1.41	7	9.6	0.74	19	8.2	0.99	24	9.2	1.39
3 months +	54	10.1	0.74	11.5	9.8	—	17	9.8	0.71	18	10.0	0.74	13	10.5	1.24	53	10.2	0.86
6 months +	43	10.9	0.99	12.5	11.8	0.00	16	11.8	2.01	21	10.6	0.78	18	11.3	0.75	55	10.8	0.73
9 months +	37	11.0	1.56	13.5	11.6	—	24	11.6	1.25	30	10.9	0.76	12	11.2	0.49	76	11.0	0.83
1 year +	177	12.0	1.37	13.8	12.7	1.00	110	12.7	1.26	156	12.1	0.93	53	12.3	1.19	248	12.9	1.18
2 years +	137	13.7	1.57	14.2	14.0	0.90	87	14.0	1.44	165	13.2	1.00	60	14.1	1.73	238	13.6	1.00
3 years +	138	14.4	1.23	15.4	15.1	1.06	98	15.1	1.75	170	14.1	1.10	110	15.3	1.32	217	14.6	1.32
4 years +	147	15.6	1.43	16.0	16.4	1.12	108	16.4	1.42	160	15.0	1.28	160	16.3	1.18	204	15.7	2.38
5 years +	170	16.6	1.39	17.1	17.2	1.01	120	17.2	1.41	160	15.5	1.15	144	17.2	1.16	211	15.9	1.09
6 years +	221	17.3	1.21	17.9	18.6	0.99	152	18.6	2.23	160	16.0	1.18	144	17.3	1.39	230	16.7	1.63
7 years +	177	18.0	1.64	18.3	19.3	1.10	142	19.3	1.55	122	16.6	1.30	183	18.3	1.33	246	17.3	1.14
8 years +	225	18.4	1.22	19.2	20.0	1.27	145	20.0	1.38	156	17.3	1.37	155	18.9	1.35	244	18.0	1.27
9 years +	247	19.0	1.25	19.7	20.3	1.12	129	20.3	1.90	144	17.6	1.30	168	19.3	1.25	262	18.5	1.29
10 years +	232	19.7	1.42	20.3	21.2	1.23	141	21.2	1.15	158	18.3	1.28	218	20.1	1.40	236	19.0	1.22
11 years +	213	20.3	1.42	21.2	22.0	1.33	142	22.0	3.48	150	18.9	1.31	194	20.8	1.42	227	19.7	1.42
12 years +	231	21.1	1.69	22.0	22.5	1.63	146	22.5	1.93	169	19.7	1.24	223	21.1	1.43	238	20.4	1.44
13 years +	276	21.8	2.00	22.8	23.2	2.01	146	23.2	2.05	166	20.0	1.68	200	22.6	1.73	199	21.2	1.55
14 years +	276	23.3	1.87	23.9	24.1	1.71	137	24.1	2.35	182	21.0	1.88	145	23.7	1.76	230	22.2	1.91
15 years +	256	24.3	1.73	24.5	25.0	1.72	138	25.0	1.93	161	21.8	1.91	187	24.6	1.65	220	23.0	1.86
16 years +	231	24.8	1.75	25.2	25.9	1.76	142	25.9	3.92	185	23.5	3.00	157	25.2	1.84	228	23.9	1.73
17 years +	163	25.1	1.59	25.5	26.4	1.28	155	26.4	2.01	175	23.8	1.89	155	25.6	1.49	193	24.7	1.69
18 years +	152	25.5	1.74	25.6	27.0	1.38	116	27.0	1.67	151	24.6	2.64	118	26.0	1.28	215	25.3	1.48
19 years +	136	25.6	2.06	25.9	27.3	1.53	64	27.3	1.74	119	24.9	1.80	99	26.0	1.33	186	25.3	1.38
20 years +	30	26.5	1.86	25.6	27.4	1.30	48	27.4	1.35	81	24.5	1.71	37	25.6	1.83	111	25.5	1.34
21 years +	6	27.7	4.21	—	27.3	—	14	27.3	1.47	8	25.5	1.20	4	24.8	1.89	13	25.8	1.25





TABLE 20

Means and standard deviations (S. D.) for bicristal diameter of female infants and girls aged 1 through 21 years by region (States of India) and age; with actual number of children measured.

[illegible]





TABLE 21

Means and standard deviations (S.D.) for head circumference of male infants and boys aged 1 through 21 years by region (States of India) and age ; with actual number of children measured.

Age	Region																	
	Andhra Pradesh			Delhi			Jammu & Kashmir			Kerala			Madhya Pradesh			Madras		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Head circumference (cm.)																		
Less than																		
3 months +	31	36.7	2.20	—	—	—	2	42.0	4.95	7	38.2	1.53	19	35.1	3.44	24	36.5	1.32
6 months +	54	40.6	1.97	1	41.5	—	17	41.3	3.07	18	40.6	1.21	13	40.6	3.26	53	40.1	1.69
9 months +	43	42.2	2.07	2	43.5	0.00	16	42.3	3.64	21	42.0	1.39	18	42.7	2.30	55	41.8	1.55
1 year +	37	43.2	1.92	1	45.5	—	24	44.3	2.18	30	43.7	1.61	12	43.4	1.38	76	42.8	1.37
2 years +	177	44.6	1.84	39	45.5	1.75	110	45.6	1.76	156	45.1	3.13	53	44.9	2.57	245	44.2	1.78
3 years +	137	46.0	1.96	39	47.1	1.41	87	46.9	1.81	164	47.0	1.74	55	46.6	1.69	233	46.0	1.79
4 years +	111	46.9	1.88	15	47.8	1.22	98	48.0	1.68	37	47.5	2.45	77	48.1	1.49	112	46.4	1.16
5 years +	119	47.8	1.79	—	—	—	108	49.0	1.84	13	49.2	2.08	108	48.6	1.49	96	47.5	1.37
6 years +	157	48.5	1.70	—	—	—	120	49.8	1.70	—	—	—	88	49.4	1.39	101	47.8	1.40
7 years +	181	48.8	1.36	—	—	—	152	50.0	3.39	—	—	—	86	49.4	1.58	108	48.4	1.19
8 years +	157	49.3	1.58	—	—	—	142	51.1	1.70	—	—	—	90	50.0	1.40	107	48.8	1.34
9 years +	199	49.6	1.90	—	—	—	145	51.5	1.66	—	—	—	57	50.4	1.60	105	49.1	1.24
10 years +	228	49.9	1.36	—	—	—	129	51.2	1.72	—	—	—	70	50.8	1.20	113	49.5	1.33
11 years +	220	50.3	1.65	—	—	—	141	51.5	3.68	—	—	—	69	51.0	1.44	109	49.6	1.27
12 years +	209	50.9	1.11	—	—	—	142	52.0	1.85	—	—	—	57	51.4	1.61	96	49.9	1.38
13 years +	209	51.3	2.17	—	—	—	146	52.3	1.64	—	—	—	80	51.5	1.46	115	50.4	1.40
14 years +	181	51.6	1.60	—	—	—	146	52.8	1.54	—	—	—	69	52.2	1.58	98	50.7	1.54
15 years +	150	52.3	1.13	—	—	—	137	53.1	2.38	—	—	—	64	52.4	1.75	112	51.5	1.66
16 years +	158	52.7	1.51	—	—	—	138	53.5	1.90	—	—	—	94	52.7	1.81	90	52.0	1.76
17 years +	143	53.2	1.64	—	—	—	142	54.3	2.13	—	—	—	79	53.2	1.62	116	52.7	1.57
18 years +	109	53.3	1.82	—	—	—	156	54.6	1.49	—	—	—	72	53.8	1.47	103	53.2	1.61
19 years +	126	53.6	1.45	—	—	—	116	55.0	1.66	—	—	—	59	53.7	1.39	118	53.7	2.39
20 years +	115	53.9	1.59	—	—	—	64	55.1	1.37	—	—	—	54	53.8	1.36	92	53.6	1.51
21 years +	29	53.5	1.83	—	—	—	48	55.3	1.57	—	—	—	16	53.6	1.57	48	54.1	1.32
	4	54.0	0.58	—	—	—	14	55.5	1.97	—	—	—	—	—	—	10	53.6	2.42







TABLE 22

**Means and standard deviations (S.D.) for head circumference of female infants and girls aged 1 through 21 years by region (States of India) and age; with actual number of children measured.**

Age	Region																	
	Andhra Pradesh			Delhi			Jammu & Kashmir			Kerala			Madhya Pradesh			Madras		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Head Circumference (cm.)																		
Less than 3 months +	50	36.4	3.20	—	—	—	2	36.0	0.71	15	37.5	1.37	17	34.8	1.86	26	36.7	1.23
3 months +	53	39.9	1.69	—	—	—	11	40.9	1.21	24	38.9	1.33	10	39.0	1.43	39	38.4	1.75
6 months +	54	41.8	1.66	—	—	—	8	41.8	1.88	21	40.4	1.55	12	39.6	1.62	56	40.2	1.37
9 months +	25	41.9	1.68	—	—	—	6	42.2	1.37	23	41.9	1.70	9	41.2	2.76	45	41.3	1.46
1 year +	177	43.7	1.80	—	—	—	82	44.4	2.42	143	44.0	1.47	67	43.6	1.91	219	43.4	1.64
2 years +	122	45.0	1.50	—	—	—	65	46.4	1.78	137	45.5	1.52	45	45.6	1.45	189	44.7	1.90
3 years +	119	46.3	1.74	—	—	—	84	47.3	1.91	23	46.5	1.17	70	47.2	1.56	98	45.4	1.44
4 years +	111	47.1	1.96	—	—	—	87	48.8	1.31	6	48.2	2.22	81	48.0	1.73	99	46.6	1.28
5 years +	130	47.9	1.55	—	—	—	106	49.0	1.72	—	—	—	89	48.5	1.62	114	47.1	1.23
6 years +	175	48.3	1.40	—	—	—	122	49.6	1.80	—	—	—	83	48.5	1.70	100	47.7	1.35
7 years +	149	48.5	1.45	—	—	—	143	50.2	1.50	—	—	—	87	49.5	1.48	110	48.2	1.28
8 years +	161	49.2	1.43	—	—	—	147	50.4	1.53	—	—	—	93	49.7	1.61	92	48.4	1.34
9 years +	151	49.6	1.49	—	—	—	119	51.1	1.53	—	—	—	76	50.0	1.52	122	49.3	1.35
10 years +	240	50.1	1.38	—	—	—	121	51.5	1.65	—	—	—	111	50.1	2.02	100	49.4	1.37
11 years +	211	50.7	1.65	—	—	—	112	51.5	1.97	—	—	—	95	50.9	1.55	49	50.0	1.96
12 years +	213	51.1	1.42	—	—	—	157	52.0	1.89	—	—	—	114	51.3	1.63	10	49.6	0.88
13 years +	176	51.3	1.38	—	—	—	128	52.7	1.62	—	—	—	108	52.0	1.60	4	49.5	0.82
14 years +	144	51.7	1.56	—	—	—	131	53.2	1.46	—	—	—	102	52.8	1.72	—	—	—
15 years +	128	51.9	1.64	—	—	—	120	53.2	1.37	—	—	—	82	52.5	1.41	—	—	—
16 years +	116	52.2	1.49	—	—	—	68	53.4	1.49	—	—	—	111	52.5	1.73	—	—	—
17 years +	83	52.6	1.54	—	—	—	61	53.6	1.35	—	—	—	67	53.3	1.53	—	—	—
18 years +	54	52.8	1.43	—	—	—	50	53.8	1.39	—	—	—	51	53.3	1.73	—	—	—
19 years +	55	52.6	1.61	—	—	—	30	53.8	1.47	—	—	—	31	53.3	1.45	—	—	—
20 years +	5	52.9	1.87	—	—	—	15	53.7	1.42	—	—	—	13	53.6	1.38	—	—	—
21 years +	1	55.5	—	—	—	—	7	53.4	0.90	—	—	—	8	53.6	1.36	—	—	—

Table 22 (Contd.)

Age	Region											
	Maharashtra (Nagpur)			Maharashtra (Poona)			Orissa			Punjab		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Head circumference (cm.)												
Age	Maharashtra (Nagpur)			Maharashtra (Poona)			Orissa			Punjab		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than 3 months +	57	33.6	4.26	50	36.3	2.46	10	36.7	0.63	20	36.8	1.03
3 months +	61	37.7	1.77	51	39.9	2.59	6	39.7	1.17	15	40.0	2.15
6 months +	79	40.1	2.08	68	41.4	2.06	11	40.3	1.08	15	40.7	2.61
9 months +	78	41.6	1.82	67	42.5	1.43	12	41.4	1.56	22	41.9	2.46
1 year +	401	43.3	1.88	504	43.8	1.68	42	43.2	1.82	25	42.5	2.24
2 years +	400	44.5	1.52	491	45.3	1.69	38	44.2	1.34	198	44.6	1.98
3 years +	393	45.7	1.49	431	46.5	1.66	44	46.5	1.61	202	45.8	1.97
4 years +	403	45.4	1.70	395	47.1	1.63	39	46.7	1.41	178	46.7	2.09
5 years +	403	47.1	1.49	349	47.8	1.58	87	48.2	1.43	177	47.5	1.49
6 years +	402	47.7	1.59	433	48.1	1.54	168	48.7	1.47	185	48.6	1.80
7 years +	427	48.2	1.52	351	48.5	1.67	124	49.4	1.65	270	49.1	1.60
8 years +	392	48.7	1.49	384	49.0	1.72	89	49.7	1.61	330	49.6	1.79
9 years +	401	49.2	1.54	359	49.2	1.58	108	50.0	1.56	300	50.1	1.73
10 years +	386	49.5	1.60	374	49.6	1.59	127	50.6	1.76	298	50.5	1.49
11 years +	368	50.2	1.88	348	50.0	1.73	125	51.1	1.95	296	50.8	1.42
12 years +	381	50.4	1.65	364	50.5	1.69	76	51.7	2.56	305	51.5	2.27
13 years +	337	51.0	1.53	354	50.8	2.03	64	52.2	1.45	276	51.8	1.77
14 years +	332	51.3	1.58	367	51.4	1.72	91	52.4	1.60	252	52.5	1.72
15 years +	317	51.7	1.50	318	51.8	2.52	57	52.8	2.32	222	52.7	1.48
16 years +	305	51.7	1.56	324	52.0	1.61	78	53.0	1.7	231	53.0	1.60
17 years +	291	52.1	1.57	319	52.0	1.72	52	53.1	1.39	230	53.3	1.27
18 years +	247	52.8	1.49	266	52.0	1.58	45	53.8	1.30	148	53.2	1.22
19 years +	249	52.8	1.74	195	52.1	1.44	44	53.8	1.63	132	53.2	1.39
20 years +	—	—	—	261	52.3	1.54	1	55.5	—	72	53.2	1.24
21 years +	—	—	—	23	52.6	1.11	—	—	—	39	53.3	1.55
										19	53.6	1.43
										—	—	—
										15	40.0	2.15
										15	40.7	2.61
										22	41.9	2.46
										12	42.1	0.92
										151	43.2	2.03
										141	45.4	1.92
										131	46.1	2.21
										121	47.7	1.38
										148	48.2	2.17
										158	48.7	1.77
										199	49.4	1.77
										230	49.8	1.76
										205	50.1	1.87
										248	50.5	1.57
										216	50.9	1.45
										210	51.3	1.79
										186	51.8	1.51
										135	52.3	1.35
										87	52.4	1.41
										44	52.2	1.73
										29	53.2	1.78
										20	53.2	1.28
										20	53.6	1.89
										23	52.6	2.13
										—	—	—
										11	52.5	1.27







Table 23 (Conid.)

Age	Region																							
	Maharashtra (Nagpur)				Maharashtra (Poona)				Orissa				Punjab				Rajasthan				Uttar Pradesh			
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.			
Chest Circumference (cm.)																								
Less than																								
3 months +	72	32.4	2.73	70	40.6	2.08	16	38.2	5.44	16	39.4	5.09	2	40.5	4.00	...	...	...	...	...	...			
6 months +	75	38.0	2.10	103	42.0	2.77	21	39.2	1.80	60	39.1	2.80	9	39.3	2.38	...	...	...	...	...	...			
9 months +	63	39.7	2.71	69	43.5	3.02	22	40.4	2.67	65	40.5	2.64	13	41.0	3.51	...	...	...	...	...	...			
1 year +	61	40.9	2.43	73	43.9	2.68	21	41.6	2.16	57	42.2	2.71	14	41.1	2.91	...	...	...	...	...	...			
2 years +	406	43.1	2.98	532	44.3	2.46	86	43.7	2.59	280	43.9	2.67	182	43.1	3.01	635	43.1	3.01	635	43.1	3.01			
3 years +	369	45.3	4.56	498	46.7	2.46	76	45.1	2.83	232	46.7	2.25	172	46.3	2.70	713	45.7	2.70	713	45.7	2.70			
4 years +	370	47.6	5.10	416	48.5	2.63	82	48.0	2.84	187	49.0	2.76	171	49.5	2.56	643	47.7	2.56	643	47.7	2.56			
5 years +	384	49.3	5.48	369	50.0	2.68	69	49.3	2.54	232	50.0	2.64	173	50.6	3.14	801	50.3	3.14	801	50.3	3.14			
6 years +	373	50.0	6.38	359	51.3	2.53	99	52.4	2.80	201	51.3	3.43	173	52.9	3.84	828	51.4	3.84	828	51.4	3.84			
7 years +	394	52.3	3.46	392	52.4	2.71	243	53.5	3.01	267	53.5	3.00	196	54.7	2.91	755	52.9	2.91	755	52.9	2.91			
8 years +	420	53.9	4.11	364	53.7	2.75	138	56.0	2.83	311	55.5	3.03	193	56.5	3.19	829	54.0	3.19	829	54.0	3.19			
9 years +	398	55.3	6.06	363	55.2	2.82	138	57.8	3.44	297	57.0	4.69	223	57.7	3.30	791	56.8	3.30	791	56.8	3.30			
10 years +	304	56.0	6.60	386	56.8	3.11	142	59.0	4.02	298	58.9	3.42	236	59.5	3.62	904	58.5	3.62	904	58.5	3.62			
11 years +	379	58.7	5.36	376	58.3	3.48	146	60.5	4.60	296	60.7	3.19	287	60.8	3.70	851	58.5	3.70	851	58.5	3.70			
12 years +	377	60.8	4.26	373	59.5	3.67	134	63.0	5.20	269	62.5	4.09	251	63.5	4.46	834	62.1	4.46	834	62.1	4.46			
13 years +	378	62.8	5.97	355	60.9	3.80	107	64.8	5.13	311	65.0	4.61	253	66.5	4.64	687	63.9	4.64	687	63.9	4.64			
14 years +	379	65.6	5.40	357	64.3	5.02	67	68.8	6.64	268	67.7	5.18	250	68.0	6.39	551	66.1	6.39	551	66.1	6.39			
15 years +	363	66.7	9.51	369	66.7	5.39	63	72.6	6.39	262	70.2	5.20	254	71.1	5.51	454	69.7	5.51	454	69.7	5.51			
16 years +	344	67.9	15.71	354	69.8	5.71	76	75.3	4.65	242	73.3	4.79	268	73.7	4.92	427	71.3	4.92	427	71.3	4.92			
17 years +	351	70.4	14.57	335	73.1	5.26	53	77.6	4.12	229	76.6	4.61	175	75.4	4.31	412	73.3	4.31	412	73.3	4.31			
18 years +	348	73.7	12.89	352	75.2	4.64	51	77.9	3.90	153	78.9	4.01	139	76.7	4.50	458	74.6	4.50	458	74.6	4.50			
19 years +	353	74.3	14.67	361	76.7	4.49	52	79.4	4.05	118	79.7	4.25	92	77.6	4.94	379	75.2	4.94	379	75.2	4.94			
20 years +	359	75.2	14.71	373	77.3	4.10	66	80.3	4.05	68	80.0	3.95	63	77.6	3.99	398	75.2	3.99	398	75.2	3.99			
21 years +	18	78.0	3.50	377	78.8	4.67	50	80.7	3.91	36	81.7	2.44	7	78.9	2.79	8	76.0	2.79	8	76.0	2.79			
	14	79.0	3.01	48	79.4	4.12	31	80.9	4.99	8	80.8	2.44												





Table 24 (Contd.)

Age	Region																	
	Maharashtra (Nagpur)			Maharashtra (Poona)			Orissa			Punjab			Rajasthan			Uttar Pradesh		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Chest circumference (cm.)																		
Less than 3 months	57	31.7	4.87	50	35.3	2.21	10	33.8	1.42	20	35.5	1.41	15	36.0	1.91	1	34.5	—
3 months +	61	36.5	4.48	51	38.6	2.33	6	38.0	2.07	22	37.9	2.26	15	38.1	2.62	3	33.5	0.00
6 months +	79	37.2	6.59	65	40.3	2.33	11	38.2	1.68	24	39.6	2.11	22	39.7	2.38	14	39.7	3.04
9 months +	78	38.8	6.33	67	41.4	2.28	12	39.2	1.83	25	39.8	2.02	12	39.5	2.83	31	39.3	2.67
1 year +	401	42.1	2.53	502	43.1	2.47	42	42.0	2.74	198	42.8	2.87	151	41.4	2.96	638	41.5	6.39
2 years +	400	44.6	3.74	491	45.1	2.39	38	43.8	2.55	202	45.2	2.79	141	45.0	3.06	712	44.8	5.18
3 years +	393	45.3	5.72	431	47.7	2.79	44	46.9	2.36	178	47.4	2.85	131	46.8	3.30	665	46.3	5.73
4 years +	403	48.3	2.39	385	48.8	2.43	39	48.2	2.99	175	48.6	2.69	118	49.4	2.61	636	48.4	4.15
5 years +	403	49.9	2.45	348	50.3	2.33	87	51.6	3.21	185	50.9	2.72	145	50.3	2.83	758	48.8	7.37
6 years +	399	51.0	4.03	433	51.0	2.40	163	52.1	2.61	270	52.7	2.98	155	52.0	3.16	817	50.1	7.51
7 years +	427	52.1	6.66	349	52.2	2.79	124	55.2	3.32	330	54.1	3.43	195	53.5	3.38	771	51.3	8.92
8 years +	392	54.4	3.01	382	53.9	2.92	89	55.9	3.65	298	56.0	3.65	227	54.9	3.38	753	53.8	6.66
9 years +	401	56.2	4.70	357	55.3	3.25	108	57.9	3.95	298	58.0	3.50	201	56.1	3.09	799	55.3	5.85
10 years +	385	57.8	4.58	339	57.0	3.80	127	60.2	4.65	296	59.5	5.38	243	58.9	4.31	708	57.1	5.34
11 years +	363	63.1	5.92	322	58.9	4.14	125	63.9	5.92	305	62.1	4.83	212	61.2	4.51	515	59.1	3.99
12 years +	381	62.0	10.57	319	62.3	5.38	75	67.0	6.01	276	65.5	5.52	201	63.4	5.16	511	60.3	6.52
13 years +	334	65.8	7.07	297	65.3	6.19	64	71.3	5.63	252	69.4	5.91	182	66.2	5.03	437	63.5	6.94
14 years +	332	69.4	7.47	315	69.5	5.92	91	72.5	5.37	222	72.4	5.78	133	70.4	6.06	317	65.8	5.81
15 years +	317	70.6	9.13	271	70.9	5.74	57	75.9	5.15	231	74.8	4.85	85	72.6	6.42	189	66.2	6.16
16 years +	305	72.6	8.37	284	72.7	4.91	78	75.2	5.93	229	76.1	4.99	43	73.4	6.04	161	67.8	7.01
17 years +	290	72.6	13.17	284	73.9	4.88	52	78.0	5.48	148	77.2	5.59	29	76.7	4.41	110	68.1	5.69
18 years +	247	72.7	12.43	245	74.0	5.36	45	78.8	7.41	131	77.4	5.29	20	78.9	4.93	84	68.2	8.53
19 years +	248	73.3	9.93	176	74.2	4.91	44	79.3	5.16	71	77.7	4.49	20	80.3	5.90	80	68.6	4.25
20 years +	—	—	—	245	75.8	5.26	1	88.5	—	39	77.3	6.20	22	78.8	4.20	92	68.2	5.00
21 years +	—	—	—	23	77.3	4.79	—	—	—	19	78.6	5.02	—	—	—	2	70.5	0.00









TABLE 26

Age	Region																	
	Andhra Pradesh			Delhi			Jammu & Kashmir			Kerala			Madhya Pradesh			Madras		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than 3 months	50	54.7	5.35	—	—	—	2	51.5	—	15	55.9	1.65	17	52.6	—	38	55.8	4.198
3 months +	53	61.6	5.32	—	—	—	11	60.2	2.69	24	59.9	2.59	10	61.1	3.44	40	59.3	3.31
6 months +	54	66.4	5.69	—	—	—	8	62.1	3.78	21	63.6	2.57	12	63.8	2.19	55	63.5	2.82
9 months +	25	68.6	7.31	—	—	—	6	66.8	5.05	23	67.0	2.99	9	68.1	4.29	45	66.8	3.53
1 year +	177	73.2	5.91	29	74.2	5.36	83	72.7	5.35	143	74.0	4.28	60	73.0	5.80	219	72.3	4.16
2 years +	123	80.0	5.93	35	80.9	4.97	65	81.4	5.62	142	81.5	5.39	52	81.4	7.40	195	80.6	4.76
3 years +	148	87.3	6.35	26	87.6	4.81	84	87.6	7.16	146	86.9	5.14	89	83.6	6.79	214	87.2	5.18
4 years +	135	93.9	7.67	50	93.2	6.02	87	93.4	6.92	135	95.2	5.50	126	91.8	6.20	193	94.3	5.20
5 years +	135	101.6	7.15	95	105.2	5.93	106	100.9	8.13	151	100.0	6.32	158	102.2	7.14	225	100.4	5.35
6 years +	212	105.1	6.37	81	104.9	5.43	122	104.4	7.39	159	106.4	7.19	157	110.0	7.80	224	105.9	5.91
7 years +	187	111.7	7.21	101	114.6	5.63	143	115.1	7.84	157	111.9	6.52	150	115.2	7.22	210	111.1	5.70
8 years +	207	117.8	8.12	103	120.3	7.35	148	121.2	8.24	148	116.7	7.13	131	120.2	7.17	220	116.0	5.76
9 years +	183	121.9	7.62	98	125.2	8.16	119	125.7	8.81	152	119.6	7.31	114	124.0	6.95	239	121.5	5.80
10 years +	257	127.8	7.63	87	131.7	8.21	121	132.6	9.32	143	125.0	8.14	153	129.2	7.90	239	126.4	6.22
11 years +	234	134.6	8.45	85	137.2	9.16	112	134.9	8.08	151	129.5	9.27	140	135.5	8.07	212	132.1	7.61
12 years +	246	139.2	7.57	122	142.8	8.75	157	139.9	9.27	145	135.2	8.68	148	140.8	8.02	225	138.1	8.23
13 years +	199	143.8	7.67	73	148.8	6.50	123	145.0	7.52	139	141.7	8.27	148	144.7	7.18	199	143.1	7.76
14 years +	169	147.7	7.03	72	150.4	6.08	131	148.9	7.00	143	144.7	8.31	128	149.2	5.65	208	147.4	7.24
15 years +	149	148.4	6.96	57	151.5	5.71	120	150.0	5.38	146	147.8	8.33	99	151.1	5.05	208	149.7	5.99
16 years +	138	149.8	6.39	86	152.9	8.56	68	150.7	5.70	142	150.0	6.23	143	152.3	4.97	191	151.5	5.91
17 years +	96	150.0	6.63	65	153.9	5.53	61	152.8	5.87	121	150.7	7.53	101	152.6	5.31	119	151.6	6.02
18 years +	73	149.8	5.67	58	153.8	5.24	50	153.6	8.29	106	151.2	5.70	79	152.8	5.53	101	151.9	5.43
19 years +	80	149.8	6.75	51	153.8	7.39	30	153.7	6.14	101	151.2	5.69	48	154.0	4.98	87	152.8	6.56
20 years +	6	146.3	5.56	8	155.5	6.35	15	153.0	7.21	77	151.6	5.79	19	154.1	5.83	47	151.5	5.65
21 years +	1	149.5	—	2	149.5	9.90	7	150.2	5.47	6	153.5	9.18	14	152.9	5.87	9	154.1	4.61



Table 26 (Contd.)

Age	Region																	
	Maharashtra (Nagpur)			Maharashtra (Poona)			Orissa			Punjab			Rajasthan			Uttar Pradesh		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
	Standing height (cm.)																	
Less than																		
3 months +	57	51.7	6.83	55	53.4	3.11	10	57.4	3.02	20	54.7	1.47	15	61.5	4.71	1	55.5	—
3 months +	61	59.4	6.05	51	59.8	3.99	6	62.0	3.02	22	60.1	4.31	15	64.0	4.60	3	62.5	0.00
6 months +	79	63.2	5.12	65	63.4	3.58	11	65.3	2.99	24	65.5	4.40	22	64.5	4.32	14	64.5	3.06
9 months +	78	66.1	3.85	67	66.6	3.51	12	66.9	4.44	25	66.1	3.74	12	67.7	4.27	31	67.8	4.88
1 year +	401	72.0	5.23	504	72.9	4.57	42	73.2	6.67	193	72.3	5.36	151	71.8	6.02	638	71.9	5.36
2 years +	400	79.8	5.80	493	80.5	5.48	38	73.0	5.45	202	80.5	6.97	141	79.7	6.37	717	79.4	5.75
3 years +	393	87.4	5.43	512	83.3	6.14	44	87.3	6.26	195	87.4	7.18	154	87.2	8.23	951	86.1	6.47
4 years +	403	93.5	6.22	492	95.5	5.58	39	94.6	8.74	200	93.2	6.53	162	95.7	6.96	912	94.0	6.39
5 years +	403	100.6	5.97	470	101.7	5.89	87	106.9	7.07	203	102.6	6.95	218	103.2	8.87	969	100.5	8.27
6 years +	402	106.1	9.44	564	106.5	6.03	168	113.3	6.30	291	109.2	6.95	219	109.0	7.17	1066	106.7	10.87
7 years +	427	112.6	8.28	509	111.0	6.29	124	117.3	6.90	336	115.3	6.91	267	114.2	7.77	992	111.8	11.29
8 years +	392	117.6	6.53	532	117.0	5.97	89	123.0	7.37	326	120.6	7.53	289	119.3	8.68	897	117.3	8.49
9 years +	401	123.7	7.50	514	121.7	6.32	108	126.9	6.68	319	125.7	6.57	272	124.0	7.38	1032	122.2	8.04
10 years +	386	127.8	6.92	511	127.1	7.31	127	132.5	7.90	319	130.1	7.95	311	128.4	7.69	987	127.9	7.98
11 years +	368	133.2	9.31	494	131.8	7.90	128	139.0	8.08	320	135.6	7.56	281	134.2	8.45	907	132.4	11.12
12 years +	381	138.2	11.33	506	138.3	8.04	101	143.5	7.79	293	141.4	8.14	280	139.2	7.94	821	137.9	13.23
13 years +	337	142.5	9.19	501	142.5	8.00	97	147.8	6.39	284	146.3	7.71	235	144.0	7.03	828	143.3	11.42
14 years +	332	147.1	6.35	507	147.1	6.74	124	149.6	5.55	251	150.2	6.41	182	148.7	6.57	653	145.4	11.48
15 years +	317	149.3	8.24	477	149.7	6.44	95	151.3	5.15	255	152.5	6.61	133	149.7	6.47	587	148.8	12.06
16 years +	305	149.9	5.92	479	151.0	5.97	110	151.4	6.02	269	152.9	5.78	83	151.5	5.75	515	150.6	10.65
17 years +	281	150.2	5.13	454	151.1	5.49	84	151.7	6.77	174	153.2	6.08	58	152.1	5.70	501	152.0	5.35
18 years +	247	151.9	5.53	377	151.4	5.86	77	152.9	6.79	148	153.8	5.84	56	153.2	5.27	340	152.3	6.04
19 years +	249	152.0	5.52	297	151.6	5.67	74	152.9	5.87	79	153.8	5.76	60	154.1	6.49	307	152.5	5.56
20 years +	—	—	—	312	151.3	5.79	1	154.5	—	43	153.9	7.17	52	153.8	5.08	371	152.9	5.77
21 years +	—	—	—	23	152.0	4.76	—	—	—	19	152.8	7.73	—	—	—	19	154.6	2.72









TABLE 28

Means and standard deviations (S.D.) for sitting height of female infants and girls aged 1 through 21 years by region (States of India) and age; with actual number of children measured.

Age	Region																	
	Andhra Pradesh			Delhi			Jammu & Kashmir			Kerala			Madhya Pradesh			Madras		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Sitting height (cm.)																		
Less than	50	35.1	3.53	—	—	—	2	33.5	1.41	15	36.3	1.82	17	32.8	2.06	38	36.0	2.57
3 months +	53	39.2	1.99	—	—	—	11	39.2	3.74	24	38.3	1.96	10	37.8	1.42	40	38.0	2.18
6 months +	54	41.2	1.99	—	—	—	8	39.8	2.77	21	40.1	1.55	12	41.2	1.93	56	40.5	2.19
9 months +	25	41.8	2.88	—	—	—	6	41.2	3.67	23	42.9	2.56	9	42.5	3.18	46	42.5	3.02
1 year +	117	43.9	2.61	29	45.6	3.03	83	45.2	3.07	143	45.0	2.57	69	44.0	3.22	219	44.6	2.36
2 years +	123	47.2	2.88	35	49.2	2.80	65	48.8	3.21	142	48.0	2.98	52	47.5	3.88	195	48.0	3.65
3 years +	148	49.9	3.10	26	51.7	3.36	84	51.5	3.88	146	49.7	2.40	89	51.1	3.49	214	50.1	2.64
4 years +	135	52.1	3.46	50	55.2	3.13	87	54.8	3.70	136	53.0	2.49	126	54.4	3.11	198	52.9	2.62
5 years +	136	54.8	3.44	95	58.2	2.72	106	57.1	3.95	151	54.8	3.04	158	56.2	3.48	225	55.4	2.72
6 years +	212	57.2	3.52	81	59.7	3.42	122	60.8	4.48	159	57.3	3.40	157	59.4	3.73	224	57.6	2.98
7 years +	187	59.7	3.57	101	62.1	2.98	143	63.1	3.74	157	59.3	3.40	150	61.8	3.90	210	59.9	3.00
8 years +	207	62.0	3.75	108	64.4	3.21	148	63.9	5.02	148	61.3	3.17	131	63.9	3.74	220	61.6	2.72
9 years +	188	63.6	3.41	98	66.5	3.94	119	67.4	4.18	152	62.1	3.09	114	65.5	3.88	239	64.0	3.08
10 years +	257	66.2	3.83	87	69.1	4.28	121	70.8	4.52	143	64.5	3.75	158	67.6	4.45	239	65.6	3.18
11 years +	234	69.2	4.56	85	71.7	5.17	112	71.5	4.13	161	66.1	4.28	140	70.3	4.72	212	68.0	3.57
12 years +	246	71.2	4.44	122	74.8	4.63	157	74.1	5.04	146	68.6	4.35	148	72.8	4.34	225	70.6	4.21
13 years +	199	73.7	4.54	73	77.6	3.42	128	77.1	4.17	139	71.8	4.42	148	74.8	4.21	199	73.6	4.35
14 years +	169	75.9	4.23	72	78.8	3.38	131	79.1	3.60	143	73.9	4.66	128	77.7	3.32	208	75.6	3.85
15 years +	149	76.2	4.10	57	79.2	3.22	120	79.2	3.28	146	75.5	4.31	99	78.1	3.23	208	77.1	3.58
16 years +	138	76.9	4.41	86	80.6	4.65	68	79.5	3.96	142	76.7	3.47	143	79.4	2.91	191	78.1	3.16
17 years +	96	77.0	4.02	65	81.3	2.82	61	80.8	2.91	121	77.0	3.49	101	80.0	2.67	119	78.3	3.34
18 years +	73	76.9	3.83	58	81.4	3.03	50	80.8	4.31	106	77.4	3.17	79	79.8	3.77	101	78.5	2.72
19 years +	80	77.2	3.75	51	81.8	2.96	30	80.9	3.58	101	77.6	2.96	48	80.1	3.06	87	78.7	4.90
20 years +	6	76.5	2.45	8	81.8	3.50	15	80.2	3.46	77	77.5	3.22	19	80.5	2.38	47	78.0	4.83
21 years +	1	76.5	—	2	80.5	4.24	7	80.1	3.34	6	76.5	6.58	14	80.1	2.17	9	80.4	1.83





TABLE 29

Means and standard deviations (S.D.) for weight of male infants and boys aged 1 through 21 years by region (States of India) and age; with actual number of children measured.

Age	Region																	
	Andhra Pradesh			Delhi			Jammu & Kashmir			Kerala			Madhya Pradesh			Madras		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Weight (kg.)																		
Less than 3 months	31	3.9	1.08	—	—	—	2	5.4	2.88	7	4.9	1.05	19	3.0	0.90	24	4.0	0.71
3 months +	54	5.8	1.18	1	5.7	—	17	5.3	0.94	18	6.2	0.99	13	5.4	1.54	53	5.8	0.95
6 months +	43	6.9	1.31	2	9.1	0.32	16	6.1	1.47	21	7.1	1.10	18	6.8	1.30	55	6.8	0.88
9 months +	37	7.2	1.53	1	9.3	—	24	7.3	1.24	30	7.9	1.27	12	6.9	0.88	76	7.2	0.96
1 year +	177	8.0	1.43	39	9.6	1.17	110	8.0	1.44	156	8.9	1.14	53	8.4	1.31	248	8.3	1.16
2 years +	137	9.9	2.08	39	11.3	1.40	87	10.0	2.20	165	10.5	1.37	60	10.8	2.02	238	10.2	1.30
3 years +	138	11.3	1.78	37	12.7	1.36	98	11.2	1.85	170	12.0	1.71	110	12.7	2.11	217	11.6	1.48
4 years +	147	13.2	2.35	41	14.5	1.81	108	13.5	1.21	160	13.7	1.91	161	14.5	2.16	204	13.2	1.67
5 years +	170	14.6	2.30	75	16.0	1.91	120	14.9	2.24	160	14.7	1.86	145	16.1	2.08	211	14.3	1.70
6 years +	221	16.3	2.24	108	18.0	2.75	152	17.5	2.65	160	15.7	2.15	144	16.8	2.66	230	15.7	1.87
7 years +	177	17.6	2.92	114	19.4	3.47	142	19.2	2.83	122	17.6	2.63	183	19.0	2.42	246	17.1	2.24
8 years +	225	19.7	3.13	128	21.3	3.70	145	21.7	3.93	156	18.9	2.99	157	20.9	3.41	244	18.8	2.42
9 years +	247	21.3	3.27	138	23.4	3.72	129	23.1	3.87	144	19.8	2.56	169	22.6	3.55	262	20.5	2.67
10 years +	232	23.7	5.02	112	26.0	3.72	141	25.5	4.78	158	21.7	3.29	225	24.1	4.07	236	23.1	3.06
11 years +	213	26.1	4.63	121	28.7	5.85	142	27.7	6.18	150	23.4	3.46	194	27.1	4.41	227	24.3	3.96
12 years +	231	29.4	5.51	113	32.3	6.64	146	29.7	5.38	169	25.5	4.32	224	30.3	4.60	238	26.5	4.50
13 years +	276	32.1	6.57	116	35.7	8.52	146	32.3	6.51	166	28.7	5.62	200	33.9	6.28	200	29.8	5.31
14 years +	276	37.4	7.71	107	39.1	7.45	137	36.7	7.61	182	32.1	7.12	145	39.1	7.03	230	33.7	6.90
15 years +	256	40.8	7.04	76	43.0	7.76	138	41.0	8.06	161	34.7	7.87	187	41.6	6.89	220	36.7	7.04
16 years +	231	44.0	6.67	49	46.7	9.35	142	44.5	6.45	185	40.6	7.68	157	45.0	7.19	228	40.6	6.72
17 years +	163	45.5	6.31	61	50.2	9.90	156	47.3	7.27	175	43.6	7.14	155	47.8	6.53	193	44.0	7.04
18 years +	152	46.6	7.32	61	53.0	9.79	116	53.2	6.40	151	44.4	6.85	118	49.4	6.08	215	46.0	6.61
19 years +	126	47.1	6.00	43	53.5	6.74	64	50.9	6.95	119	47.4	5.82	99	50.6	5.80	187	46.9	5.41
20 years +	30	47.5	7.07	43	52.7	5.10	48	53.2	6.76	81	47.8	5.81	37	49.1	5.74	111	48.8	5.70
21 years +	6	50.2	4.26	—	—	—	14	52.1	5.22	8	48.1	7.61	4	50.1	9.55	13	48.7	7.00













TABLE 31  
Means and standard deviations (S.D.) for bicristal diameter of infants and children aged 1 through 21 years by sex, residence (urban/rural) and age ; with actual number of children measured.

Age	Boys				Girls				
	Urban		Rural		Urban		Rural		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Bicristal diameter (cm.)									
Less than 3 months	196	10.7	4.28	31	9.7	1.47	110	8.8	1.57
3 months +	271	11.0	1.90	115	10.0	0.90	219	10.0	0.87
6 months +	266	11.2	1.48	125	11.0	1.09	254	10.4	0.92
9 months +	271	11.3	0.93	139	11.4	1.21	233	10.7	0.99
1 year +	1862	12.2	1.23	1044	12.1	1.30	1603	11.8	1.25
2 years +	1750	13.6	1.24	1056	13.3	1.28	1584	13.3	1.36
3 years +	1926	14.9	1.25	1117	14.3	1.22	1801	14.5	1.42
4 years +	2211	15.9	1.25	1186	15.3	1.23	1857	15.5	1.33
5 years +	2087	16.6	1.30	1364	16.2	1.20	2031	16.4	1.32
6 years +	2303	17.4	1.52	1513	16.9	1.39	2223	17.2	1.37
7 years +	2201	18.0	1.38	1510	17.7	1.44	2236	17.9	1.38
8 years +	2311	18.7	1.41	1610	18.3	1.44	2160	18.6	1.55
9 years +	2348	19.2	1.44	1497	18.9	1.51	2272	19.2	1.60
10 years +	2382	19.9	1.54	1668	19.6	1.47	2381	20.1	1.81
11 years +	2300	20.6	1.65	1572	20.2	1.57	2375	21.1	1.95
12 years +	2435	21.2	1.77	1605	21.0	1.59	2459	22.2	2.08
13 years +	2471	22.2	1.92	1393	21.9	1.82	2346	23.4	2.33
14 years +	2379	23.2	1.90	1215	22.6	2.02	2238	24.3	1.85
15 years +	2468	24.2	1.90	1085	23.4	1.97	2046	25.0	1.77
16 years +	2422	24.8	1.76	971	24.3	1.87	2025	25.4	1.75
17 years +	2367	25.3	1.67	812	24.7	1.74	1675	25.7	1.79
18 years +	2065	25.5	1.60	885	25.2	1.64	1347	25.7	1.80
19 years +	1768	25.6	1.60	718	25.2	1.72	1149	25.7	1.68
20 years +	1086	25.7	1.54	671	25.4	1.61	656	25.6	1.86
21 years +	123	25.1	1.99	53	25.1	1.87	73	26.1	1.45

TABLE 32  
Means and standard deviations (S.D.) for head circumference of infants and children aged 1 through 21 years by sex, residence (urban/rural) and age ; with actual number of children measured.

Age	Boys				Girls			
	Urban		Rural		Urban		Rural	
	No.	Mean	S.D.	No.	No.	Mean	S.D.	No.
	Head circumference (cm.)				No.	Mean	S.D.	S.D.
Less than 3 months +	194	38.3	6.36	31	164	35.3	2.97	34
3 months +	270	41.0	3.42	115	219	39.0	2.19	75
6 months +	266	42.5	2.38	125	255	40.8	2.18	111
9 months +	271	43.3	1.83	139	232	41.8	1.65	99
1 year +	1862	44.7	1.92	1041	1603	43.6	1.86	1051
2 years +	1730	46.3	1.79	1047	1572	45.1	1.77	994
3 years +	1390	47.4	1.84	762	1354	46.2	1.77	788
4 years +	1439	48.1	1.82	713	1313	47.1	1.65	665
5 years +	1391	48.6	1.68	816	1313	47.1	1.63	738
6 years +	1554	48.9	1.59	958	1558	47.8	1.60	948
7 years +	1467	49.5	1.73	938	1599	48.4	1.60	948
8 years +	1499	49.8	1.64	996	1576	48.8	1.66	915
9 years +	1565	50.1	1.57	902	1546	49.3	1.67	915
10 years +	1596	50.4	1.65	1035	1582	49.7	1.59	868
11 years +	1500	50.8	1.78	1035	1726	50.1	1.72	842
12 years +	1565	51.2	1.75	1014	1631	50.6	1.70	677
13 years +	1498	51.6	1.79	904	1658	51.1	1.71	629
14 years +	1467	52.1	1.75	829	1540	51.7	1.65	553
15 years +	1539	52.7	1.77	738	1473	52.1	1.60	438
16 years +	1453	53.2	1.87	655	1226	52.3	1.65	402
17 years +	1429	53.5	1.65	553	1236	52.4	1.60	324
18 years +	1272	53.6	1.84	566	968	52.5	1.60	274
19 years +	1100	53.6	1.73	463	770	52.4	1.67	206
20 years +	699	53.7	1.71	333	596	52.3	1.53	153
21 years +	102	53.9	1.95	47	294	52.6	1.73	125
					51	53.0	1.38	24



TABLE 33

Means and standard deviations (S.D.) for chest circumference of infants and children aged 1 through 21 years by sex, residence (urban/rural) and age ; with actual number of children measured.

Age	Boys				Girls				
	Urban		Rural		Urban		Rural		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Chest circumference (cm.)									
Less than 3 months	195	39.4	3.35	31	36.8	2.54	163	33.0	3.27
3 months +	269	40.9	5.80	115	38.6	2.29	219	37.4	2.48
6 months +	266	41.7	3.51	125	40.6	2.91	255	38.7	2.51
9 months +	271	41.9	3.70	140	42.1	2.80	234	39.7	2.56
1 year +	1833	43.6	3.70	1043	42.7	4.03	1603	42.3	2.49
2 years +	1682	46.4	3.72	1051	44.9	4.18	1568	45.0	2.48
3 years +	1310	48.2	3.93	959	47.7	4.47	1232	47.1	3.01
4 years +	1296	49.6	4.20	1011	49.2	3.47	1174	48.8	2.91
5 years +	1243	51.0	4.20	1167	50.6	3.82	1392	50.3	2.62
6 years +	1422	53.0	3.31	1303	52.0	2.95	1440	51.7	3.83
7 years +	1339	54.4	3.99	1263	53.7	3.32	1461	53.1	3.58
8 years +	1325	55.9	4.61	1349	55.1	3.43	1438	54.9	3.45
9 years +	1378	57.4	3.49	1226	57.2	3.44	1462	56.3	4.02
10 years +	1435	59.2	4.31	1404	59.0	4.00	1503	58.4	4.15
11 years +	1377	60.9	4.34	1302	59.6	4.24	1364	60.8	4.67
12 years +	1375	63.0	4.27	1300	62.6	4.13	1316	63.2	5.23
13 years +	1289	65.6	5.30	1111	64.8	5.07	1167	67.1	5.38
14 years +	1308	68.1	5.53	935	66.8	4.76	1122	70.4	6.14
15 years +	1319	70.8	5.41	806	70.0	6.83	992	71.9	5.86
16 years +	1281	73.0	5.33	745	73.0	4.94	946	73.0	5.71
17 years +	1241	74.9	4.88	624	75.3	4.73	780	73.6	5.58
18 years +	1125	76.2	4.81	698	75.9	4.93	687	74.0	5.88
19 years +	1016	76.4	4.98	580	76.0	4.77	589	74.4	5.47
20 years +	583	78.6	4.73	568	75.8	5.09	323	74.1	6.55
21 years +	102	79.5	4.66	49	76.9	7.50	34	77.5	4.93

**TABLE 34**  
**Means and standard deviations (S.D.) for standing height of infants and children aged 1 through 21 years**  
**by sex, residence (urban/rural) and age ; with actual number of children measured.**

Age	Boys				Girls				
	Urban		Rural		Urban		Rural		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Standing height (cm.)									
Less than									
3 months +	196	55.0	5.90	31	56.6	3.80	166	54.5	7.62
6 months +	271	62.0	4.16	115	62.4	4.63	219	60.7	5.32
9 months +	266	67.4	5.83	125	65.9	3.96	255	64.0	4.27
1 year +	271	69.1	4.16	140	69.4	4.66	234	66.7	4.16
2 years +	1862	73.9	5.11	1044	73.8	5.47	1603	72.4	5.13
3 years +	1752	81.9	5.68	1056	81.1	5.14	1584	80.4	5.98
4 years +	1926	89.6	6.63	1117	87.5	6.32	1801	87.7	6.45
5 years +	2211	96.9	6.76	1187	94.4	6.20	1857	95.3	6.41
6 years +	2087	102.7	6.73	1364	101.1	6.25	2031	102.1	7.23
7 years +	2303	109.3	7.07	1513	107.4	6.37	2223	108.0	9.15
8 years +	2201	114.5	7.12	1510	113.2	8.10	2236	113.3	8.18
9 years +	2314	119.8	7.35	1610	118.6	7.31	2160	118.7	7.98
10 years +	2351	124.1	7.27	1497	123.0	8.64	2272	123.4	8.01
11 years +	2384	128.7	7.88	1668	128.1	8.04	2381	129.1	8.48
12 years +	2322	133.9	7.99	1572	132.4	8.31	2377	134.4	9.88
13 years +	2435	138.8	8.49	1605	137.4	7.96	2459	139.8	8.85
14 years +	2471	145.3	10.14	1393	143.5	9.06	2346	144.5	9.70
15 years +	2379	151.4	10.39	1216	148.3	9.08	2238	148.0	6.73
16 years +	2468	156.8	9.56	1086	153.1	9.06	2046	150.2	8.60
17 years +	2422	160.3	9.81	971	157.5	8.76	2025	151.3	7.46
18 years +	2371	161.9	8.14	812	160.4	7.59	1675	151.8	5.96
19 years +	2065	163.2	7.96	885	162.0	6.63	1347	152.2	5.81
20 years +	1768	163.7	6.70	718	162.4	7.90	1149	152.1	5.96
21 years +	1086	163.9	6.45	671	162.9	6.12	656	152.1	5.86
	123	164.6	6.42	53	164.0	5.72	73	153.9	5.79



TABLE 35

Means and standard deviations (S.D.) for sitting height of infants and children aged 1 through 21 years by sex, residence (urban/rural) and age ; with actual number of children measured.

Age	Boys				Girls				
	Urban		Rural		Urban		Rural		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Sitting height (cm.)									
Less than 3 months	196	34.7	4.04	31	36.4	2.66	166	34.7	4.14
3 months +	271	40.1	2.50	115	39.0	2.29	219	38.7	2.09
6 months +	266	42.1	2.34	125	41.9	4.17	255	40.6	2.44
9 months +	271	43.3	2.52	140	43.2	2.60	234	41.9	2.41
1 year +	1862	45.6	3.22	1044	45.1	2.97	1603	44.3	2.89
2 years +	1752	49.0	3.19	1 56	48.3	3.04	1584	47.8	3.48
3 years +	1926	52.1	3.11	1117	50.7	3.38	1801	50.5	3.25
4 years +	2211	54.9	3.38	1187	53.6	3.14	1857	53.6	3.21
5 years +	2087	57.5	3.19	1364	56.2	3.23	2031	56.4	3.30
6 years +	2303	59.8	3.21	1513	58.8	3.41	2223	58.9	3.52
7 years +	2201	62.2	3.37	1510	61.2	3.44	2236	61.1	3.44
8 years +	2314	64.2	3.50	1610	63.3	3.71	2160	63.3	3.64
9 years +	2351	66.0	3.33	1497	65.1	3.85	2272	65.2	3.53
10 years +	2384	67.9	3.77	1668	67.0	3.53	2381	67.4	4.01
11 years +	2302	69.8	4.20	1572	68.8	3.99	2377	70.0	4.14
12 years +	2435	71.9	4.29	1605	70.7	3.80	2459	72.7	4.40
13 years +	2471	74.6	4.72	1393	73.3	4.48	2346	75.1	4.10
14 years +	2379	77.4	5.64	1216	75.6	5.03	2238	77.2	3.77
15 years +	2468	80.5	5.10	1086	78.1	5.22	2046	78.5	3.38
16 years +	2422	82.6	4.85	971	80.5	5.23	2025	79.1	3.47
17 years +	2371	84.2	4.80	812	82.2	4.32	1675	79.6	3.34
18 years +	2065	85.0	3.86	885	82.9	4.32	1347	79.6	3.37
19 years +	1768	85.3	3.85	718	82.6	3.33	1149	79.3	3.61
20 years +	1086	85.5	3.61	671	84.2	3.40	656	79.6	3.31
21 years +	123	85.5	3.47	53	84.3	3.66	73	80.5	2.82

TABLE 36

Means and standard deviations (S.D.) for weight of infants and children aged 1 through 21 years by sex, residence (urban/rural) and age ; with actual number of children measured.

Age	Boys			Girls								
	Urban		Rural	Urban		Rural						
	No.	Mean	S.D.	No.	Mean	S.D.						
	Weight (kg.)											
No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.				
Less than 3 months +	196	3.8	1.51	31	4.5	1.09	166	4.2	1.09	34	4.6	1.11
3 months +	271	5.8	1.37	115	5.7	1.08	219	5.6	1.09	75	5.3	0.91
6 months +	266	6.6	1.41	125	6.4	1.06	255	6.1	1.06	111	6.0	1.01
9 months +	271	7.5	1.32	140	7.2	1.22	234	6.6	1.11	99	6.6	1.19
1 year +	1862	8.4	1.85	1044	8.2	1.47	1603	7.8	1.79	1051	7.7	1.37
2 years +	1752	10.3	1.82	1056	9.9	1.76	1584	9.8	1.56	1019	9.3	1.72
3 years +	1926	12.0	2.15	1117	11.3	1.80	1801	11.4	2.03	1155	10.9	2.01
4 years +	2211	13.7	2.05	1187	13.0	1.99	1857	13.1	2.36	1083	12.5	1.95
5 years +	2387	15.0	2.38	1364	14.4	2.09	2031	14.7	2.27	1190	13.9	2.32
6 years +	2303	16.6	2.64	1513	15.9	2.81	2223	16.3	2.68	1442	15.4	2.48
7 years +	2201	18.4	3.05	1510	17.6	3.09	2236	17.9	2.94	1367	17.2	2.92
8 years +	2314	20.0	3.17	1610	19.3	3.60	2160	19.7	3.33	1327	18.8	3.17
9 years +	2351	21.8	3.35	1497	21.1	3.80	2272	21.6	3.41	1284	20.8	3.44
10 years +	2384	23.8	4.51	1668	23.1	3.96	2381	24.1	4.50	1254	22.5	4.28
11 years +	2302	26.4	5.60	1572	25.1	4.66	2377	27.0	5.56	984	24.5	4.62
12 years +	2435	29.0	5.89	1605	27.8	6.42	2459	30.5	6.60	967	27.3	5.70
13 years +	2471	32.7	6.92	1393	31.0	6.11	2346	34.3	6.99	808	30.6	6.58
14 years +	2379	36.8	7.67	1216	33.7	7.36	2238	37.7	6.73	656	33.5	5.69
15 years +	2468	40.9	7.57	1086	37.1	7.66	2046	40.1	6.38	598	35.4	6.78
16 years +	2422	44.0	7.57	971	41.2	7.34	2025	41.9	6.42	509	37.9	5.91
17 years +	2371	46.4	7.47	812	43.9	6.72	1675	43.0	6.49	440	39.3	5.65
18 years +	2065	48.0	7.19	885	45.8	7.01	1347	43.1	6.55	365	39.6	7.57
19 years +	1768	48.8	6.86	718	46.4	6.98	1149	43.1	6.44	314	39.9	6.38
20 years +	1086	49.6	6.23	671	47.9	7.49	656	44.3	7.36	295	42.0	7.02
21 years +	123	49.2	5.92	53	48.3	5.03	73	44.5	6.09	27	43.6	5.61



TABLE 37

Means and standard deviations (S.D.) for bicristal diameter of male infants and boys aged 1 through 21 years by religion and age ; with actual number of children measured.

Age	Religion											
	Hindu			Muslim			Sikh			Jain		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Bicristal diameter (cm.)												
Less than	221	10.4	2.72	24	8.3	0.99	2	10.2	0.98	3	8.0	1.00
3 months +	339	10.6	2.60	51	9.8	0.84	16	10.7	1.22	2	9.5	0.71
6 months +	301	11.1	1.77	48	10.7	0.88	18	11.2	0.97	5	11.8	3.11
9 months +	327	11.4	2.00	44	10.9	0.94	21	11.8	1.27	—	—	—
1 year +	2314	12.1	1.26	336	12.2	1.38	64	13.0	1.16	34	12.6	1.21
2 years +	2277	13.5	1.25	337	13.4	1.28	47	13.8	1.24	21	13.5	0.89
3 years +	2409	14.6	1.20	317	14.7	1.49	59	15.3	1.35	33	15.4	1.08
4 years +	2708	15.6	1.34	339	15.6	1.22	67	16.2	1.36	40	15.9	0.92
5 years +	2877	16.4	1.24	315	16.5	1.30	63	17.4	1.21	39	16.8	1.52
6 years +	3127	17.1	1.31	356	17.5	1.59	74	18.0	1.25	36	17.3	1.18
7 years +	3010	17.8	1.37	327	18.3	1.69	113	18.7	1.43	40	17.8	1.46
8 years +	3216	18.4	1.37	363	19.0	1.43	140	19.4	1.19	39	18.5	1.32
9 years +	3133	19.0	1.41	374	19.4	1.66	135	20.1	1.18	39	18.7	0.96
10 years +	3366	19.7	1.43	383	20.4	1.70	99	20.8	1.42	34	19.8	1.01
11 years +	3179	20.4	1.53	382	20.9	1.70	93	21.6	1.62	45	20.2	1.61
12 years +	3357	21.1	1.67	344	21.7	1.73	104	22.3	1.69	51	21.0	1.45
13 years +	3243	22.0	1.84	307	22.5	1.87	102	23.6	1.75	53	21.7	1.70
14 years +	2985	22.9	1.97	332	23.5	2.02	87	24.2	1.63	43	22.6	1.85
15 years +	2920	23.9	1.93	318	24.4	1.94	103	24.9	1.94	61	24.0	1.68
16 years +	2816	24.6	1.78	313	25.1	1.75	81	25.7	1.77	67	24.6	1.67
17 years +	2649	25.2	1.64	310	25.6	1.84	50	26.1	1.69	48	24.9	1.40
18 years +	2469	25.4	1.59	325	26.0	1.63	40	26.6	1.56	41	25.1	1.43
19 years +	2135	25.5	1.62	237	25.8	1.57	25	26.2	1.57	33	25.6	1.25
20 years +	1453	25.5	1.54	217	26.0	1.66	13	26.6	1.50	19	24.7	1.46
21 years +	144	25.3	1.39	21	26.5	2.24	5	26.9	1.34	1	21.5	—

**TABLE 38**  
**Means and standard deviations (S.D.) for bicristal diameter of female infants and girls aged 1 through 21 years by religion and age ; with actual number of children measured.**

Age	Religion											
	Hindu			Muslim			Sikh			Jain		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Bicristal diameter (cm.)												
Less than												
3 months +	239	8.9	1.85	22	8.9	1.62	1	9.5	—	3	8.5	1.00
3 months +	242	9.9	1.10	37	9.9	0.76	4	9.8	1.10	2	9.5	1.01
6 months +	285	10.5	1.07	39	10.1	0.85	10	10.9	1.27	5	11.3	1.30
9 months +	284	10.8	0.97	32	10.8	1.15	1	9.5	—	2	11.5	1.41
1 year +	2144	11.8	1.43	322	11.6	1.24	48	12.4	1.15	20	12.1	1.00
2 years +	2120	13.2	1.34	284	13.0	1.36	42	13.7	1.44	24	13.6	1.14
3 years +	2390	14.4	1.24	303	14.3	1.28	56	14.7	1.39	33	14.6	1.01
4 years +	2362	15.4	1.26	305	15.4	1.31	52	15.7	1.26	35	15.7	1.01
5 years +	2613	16.3	1.36	296	16.4	1.44	61	17.0	1.07	36	16.2	1.54
6 years +	2976	17.0	1.99	330	17.2	1.69	98	17.8	1.27	52	16.5	1.10
7 years +	2943	17.7	1.36	328	18.4	2.81	119	18.6	1.13	29	17.4	1.25
8 years +	2842	18.3	1.50	321	19.1	1.76	117	19.4	1.24	46	18.1	1.15
9 years +	2922	19.0	1.48	300	19.5	1.78	126	20.1	1.49	38	18.9	1.29
10 years +	2932	19.8	2.11	310	20.7	2.07	107	20.7	1.69	40	19.6	1.17
11 years +	2673	20.8	1.92	226	21.4	2.84	115	21.8	1.70	41	20.5	1.70
12 years +	2676	21.9	2.05	275	22.8	1.74	109	22.8	1.98	65	21.6	1.79
13 years +	2522	23.0	2.09	224	24.0	2.16	119	23.9	1.81	67	23.0	1.74
14 years +	2160	24.0	1.97	198	24.7	1.90	102	25.0	1.62	51	23.7	1.60
15 years +	2112	24.7	1.91	179	25.3	1.93	83	25.2	1.95	60	24.2	1.77
16 years +	2033	25.2	1.81	157	25.5	1.53	69	26.0	1.61	59	24.8	1.34
17 years +	1748	25.5	1.79	115	25.8	1.76	71	26.7	1.62	23	24.6	1.06
18 years +	1422	25.4	1.76	103	26.0	1.92	44	27.0	1.62	35	25.6	1.63
19 years +	1249	25.5	1.70	75	25.8	1.54	30	26.7	1.38	16	25.4	1.06
20 years +	773	25.3	1.78	58	25.7	1.70	32	27.3	1.85	6	25.3	0.75
21 years +	82	25.5	1.37	6	27.2	0.52	6	28.0	2.26	—	—	—



TABLE 39

Age	Religion														
	Hindu			Muslim			Srkh			Jain			Christian		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than 3 months	221	37.2	3.21	24	36.5	3.12	2	40.3	1.70	3	35.0	1.73	7	38.1	0.71
3 months +	339	40.9	3.03	51	40.4	2.11	16	41.4	1.81	2	40.5	0.71	8	41.0	2.27
6 months +	301	42.2	2.19	48	42.4	1.73	18	42.7	1.63	5	42.6	3.05	12	42.4	1.49
9 months +	327	43.2	2.46	44	43.4	2.01	21	43.9	1.91	—	—	—	10	43.6	1.39
1 year +	2312	44.3	3.91	336	44.8	2.12	64	45.9	2.42	34	45.5	1.66	69	44.8	1.79
2 years +	2253	45.8	3.98	331	46.3	1.91	47	47.6	1.49	21	46.0	1.60	64	46.6	1.93
3 years +	1692	47.2	2.12	241	47.5	1.63	53	48.7	1.43	28	48.3	1.46	36	47.8	2.02
4 years +	1680	47.9	1.78	238	48.3	1.60	53	49.8	2.06	31	48.2	1.24	34	48.3	1.38
5 years +	1802	48.4	1.62	231	48.8	1.72	50	50.3	1.94	29	49.1	2.80	25	49.5	2.04
6 years +	2005	48.8	1.69	268	49.4	1.89	56	50.6	1.37	28	49.4	1.41	53	49.5	1.37
7 years +	1884	49.2	1.64	248	50.1	1.94	97	50.6	2.47	33	49.4	1.47	36	49.8	1.65
8 years +	1996	49.7	1.70	253	50.3	1.79	121	51.4	1.45	30	49.9	1.45	37	49.9	1.11
9 years +	1976	49.9	1.72	269	50.4	1.61	123	51.6	1.53	23	50.0	1.12	33	50.1	1.52
10 years +	2135	50.3	1.70	292	51.2	1.55	81	51.6	1.36	27	50.4	1.54	28	50.6	1.33
11 years +	2006	50.6	1.61	284	51.4	1.60	77	52.5	1.75	31	50.5	1.33	34	50.8	1.45
12 years +	2106	51.0	1.67	253	51.7	1.67	86	52.6	1.51	40	51.0	1.50	38	51.7	2.13
13 years +	1973	51.5	1.79	229	52.2	1.85	86	53.2	1.63	38	51.3	1.39	33	51.8	2.33
14 years +	1879	51.9	1.83	256	52.5	1.70	68	53.4	1.80	23	51.9	1.47	34	51.9	1.52
15 years +	1822	52.5	1.77	249	52.8	2.15	80	54.0	1.52	42	52.6	1.70	44	52.6	1.59
16 years +	1730	52.9	1.90	241	53.6	1.80	67	54.5	1.68	36	52.9	1.73	41	53.0	1.91
17 years +	1656	53.2	1.69	236	53.9	1.66	35	55.3	1.43	26	53.2	1.72	23	52.8	1.52
18 years +	1520	53.3	1.69	257	54.3	2.19	31	55.4	1.59	27	53.4	1.33	17	53.2	1.22
19 years +	1347	53.3	1.72	178	54.0	1.60	18	55.8	1.41	22	53.6	2.70	18	53.7	1.82
20 years +	769	53.5	1.67	134	54.1	1.72	6	55.0	1.52	13	53.8	1.33	12	54.7	1.27
21 years +	121	53.6	1.59	19	54.7	1.62	4	55.8	1.73	1	51.5	—	3	55.2	3.06

TABLE 40  
Means and standard deviations (S.D.) for head circumference of female infants and girls aged 1 through 21 years by religion and age ; with actual number of children measured.

Age	Religion											
	Hindu			Muslim			Sikh			Jain		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Head circumference (cm.)												
Less than 3 months	239	35.7	3.77	22	36.4	4.07	1	35.5	—	3	35.8	2.08
3 months +	242	39.2	2.31	37	39.4	1.73	4	40.8	1.26	2	38.0	2.12
6 months +	285	41.0	2.06	39	40.5	3.23	10	42.2	2.71	5	42.0	0.71
9 months +	284	41.9	1.67	32	42.6	2.02	1	41.5	—	2	43.1	1.34
1 year +	2134	43.6	1.83	322	43.5	1.96	49	44.5	1.22	20	44.1	1.47
2 years +	2084	45.2	1.71	282	44.9	1.85	42	46.6	1.41	24	44.9	1.41
3 years +	1691	45.2	1.74	248	46.2	2.05	51	47.1	2.04	26	46.4	1.29
4 years +	1528	47.0	1.81	240	47.3	1.72	39	47.4	1.86	30	47.3	1.35
5 years +	1708	47.7	1.64	225	48.1	2.04	50	49.1	1.34	26	47.9	1.82
6 years +	2005	48.2	1.55	263	48.8	1.88	73	49.3	1.66	39	48.1	1.83
7 years +	1973	48.8	1.85	270	49.3	1.73	103	49.9	1.51	23	48.0	1.76
8 years +	1919	49.2	1.56	274	49.8	1.93	89	50.4	1.75	33	48.7	1.44
9 years +	1975	49.5	1.63	233	49.9	1.73	110	50.5	1.31	27	49.5	1.16
10 years +	1857	50.0	1.59	251	50.5	1.78	87	51.1	1.38	35	50.6	2.09
11 years +	1714	50.5	1.76	168	50.7	2.64	101	52.0	2.92	36	50.4	1.42
12 years +	1644	50.9	2.04	225	51.3	1.95	93	52.2	1.65	53	50.7	1.34
13 years +	1541	51.4	1.71	179	52.0	1.86	95	52.7	1.99	52	51.5	1.44
14 years +	1425	51.9	1.64	166	52.5	1.80	78	52.9	1.40	44	51.4	1.53
15 years +	1299	52.2	1.82	130	52.6	1.44	65	52.9	1.54	51	51.4	3.34
16 years +	1237	52.3	1.62	123	52.8	1.49	46	53.7	1.26	48	51.8	1.43
17 years +	1022	52.4	1.60	96	53.0	1.70	39	53.9	1.01	19	51.7	1.61
18 years +	816	52.2	1.59	82	53.0	1.83	28	53.4	1.43	21	52.0	1.50
19 years +	633	52.4	1.59	52	52.4	1.80	15	53.2	0.98	10	51.0	1.84
20 years +	328	52.6	1.81	40	52.5	1.66	12	53.5	1.81	2	53.5	0.90
21 years +	61	52.7	1.33	6	54.2	1.03	5	54.5	1.41	—	—	—
										3	52.5	1.00



TABLE 41  
Means and standard deviations (S.D.) for chest circumference of male infants and boys aged 1 through 21 years by religion and age ; with actual number of children measured.

Age	Religion											
	Hindu			Muslim			Sikh			Jain		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Chest circumference (cm.)												
Less than												
3 months +	221	35.1	4.08	24	33.9	3.46	2	37.3	1.00	3	33.0	2.65
3 months +	339	39.2	3.47	51	39.2	2.22	16	39.4	1.96	2	40.0	2.83
6 months +	301	40.5	2.67	48	40.8	2.09	18	41.0	3.11	5	41.6	5.12
9 months +	327	42.0	3.46	44	41.8	2.29	21	42.6	2.44	—	—	—
1 year +	2300	43.1	4.90	319	43.7	3.48	64	44.5	2.77	34	44.4	3.02
2 years +	2231	45.7	5.21	313	46.2	3.67	47	46.8	2.19	20	46.2	2.08
3 years +	1837	47.9	4.35	240	48.4	3.51	53	48.6	3.47	26	47.7	2.35
4 years +	1853	49.4	5.04	239	49.7	3.60	55	49.7	2.55	29	49.9	2.74
5 years +	2024	50.8	5.03	233	50.5	4.75	49	52.1	2.79	27	51.1	3.63
6 years +	2243	52.3	5.33	267	53.8	3.51	58	52.9	2.72	24	52.5	2.49
7 years +	2113	53.9	5.13	251	55.8	5.29	97	55.2	3.24	32	53.1	2.25
8 years +	2218	55.3	6.43	261	57.0	6.51	122	57.2	3.08	25	54.6	3.19
9 years +	2154	57.1	5.11	274	58.3	5.42	121	59.2	3.37	23	56.8	2.16
10 years +	2386	58.9	4.79	290	60.5	5.56	86	60.5	3.20	25	57.6	4.35
11 years +	2231	60.1	7.40	273	62.2	6.47	78	62.9	5.08	24	60.0	3.88
12 years +	2260	62.7	4.86	235	64.6	4.00	84	65.1	4.27	35	61.4	4.17
13 years +	2020	65.1	6.84	216	66.7	4.91	82	69.0	5.77	33	65.5	4.86
14 years +	1868	67.6	7.81	236	68.6	8.69	71	70.7	5.28	17	65.6	3.36
15 years +	1753	70.8	7.54	219	70.9	9.18	84	72.4	5.25	32	71.3	5.26
16 years +	1705	72.9	8.64	213	74.1	8.83	72	76.0	4.62	30	74.4	5.30
17 years +	1589	75.5	6.51	204	75.1	9.68	37	79.7	4.73	26	75.4	4.71
18 years +	1543	76.5	7.91	228	76.8	10.47	30	79.8	4.06	26	77.2	5.08
19 years +	1383	77.2	7.98	175	77.6	7.17	21	80.1	3.72	21	77.5	4.25
20 years +	969	77.1	10.95	141	78.3	7.60	6	82.0	6.92	13	78.2	3.66
21 years +	114	78.7	8.00	15	78.2	9.34	4	82.5	2.45	1	76.5	—





TABLE 43

Means and standard deviations (S.D.) for standing height of male infants and boys aged 1 through 21 years by religion and age ; with actual number of children measured.

Age	Religion											
	Hindu			Muslim			Sikh			Jain		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Standing height (cm.)												
Less than												
3 months	221	55.4	3.54	24	54.0	5.14	2	60.7	3.77	4	51.7	3.06
3 months +	339	62.4	3.85	51	61.2	4.65	16	63.0	2.10	2	63.0	2.83
6 months +	301	66.3	3.94	48	66.6	5.60	18	66.2	4.43	7	73.9	4.06
9 months +	327	69.0	4.81	44	69.4	5.78	21	68.7	4.19	—	—	—
1 year +	2314	73.9	4.88	336	73.4	7.01	64	76.1	6.09	34	75.9	4.47
2 years +	2277	81.7	5.35	337	81.2	5.10	47	83.3	5.14	21	82.3	4.23
3 years +	2409	88.7	6.28	317	87.4	8.01	59	89.7	6.52	33	93.1	5.09
4 years +	2711	95.9	6.49	339	95.5	6.73	67	96.1	7.10	40	97.6	6.12
5 years +	2877	102.2	6.73	315	101.8	6.76	63	104.5	7.65	39	103.2	8.57
6 years +	3127	108.3	6.69	356	109.2	7.96	74	110.6	5.64	36	109.6	5.61
7 years +	3010	113.9	6.70	327	116.1	6.95	113	117.3	7.11	40	114.8	5.91
8 years +	3219	119.0	6.92	363	120.5	6.81	140	123.6	6.44	39	119.7	6.58
9 years +	3134	123.7	7.23	374	124.8	8.07	135	128.3	7.39	39	125.2	4.81
10 years +	3366	128.5	7.65	383	130.4	10.35	99	133.1	6.29	34	130.5	5.88
11 years +	3179	133.4	7.63	382	135.4	8.15	94	137.2	9.17	45	133.4	6.83
12 years +	3357	138.2	8.40	344	140.6	8.02	104	143.6	9.00	51	139.1	6.35
13 years +	3243	144.5	8.72	307	146.6	9.30	102	152.0	10.44	53	144.8	9.68
14 years +	2985	149.9	9.52	332	152.5	10.80	87	155.6	10.44	43	149.3	7.20
15 years +	2920	155.5	9.39	318	157.1	9.09	103	159.5	9.07	61	155.4	7.74
16 years +	2816	159.5	8.18	313	160.9	8.17	81	163.6	7.70	67	159.8	6.39
17 years +	2650	162.0	7.87	312	164.0	6.80	51	167.4	6.85	48	162.7	6.89
18 years +	2469	163.2	7.39	325	165.4	6.52	40	168.4	5.25	41	163.2	6.16
19 years +	2135	163.9	6.30	238	165.0	5.99	25	168.7	5.46	33	165.6	6.29
20 years +	1453	164.0	7.11	217	165.7	6.40	13	168.5	3.16	19	165.5	4.99
21 years +	144	163.5	6.07	21	167.7	5.14	5	165.9	5.03	1	166.5	—





TABLE 45

Means and standard deviations (S.D.) for sitting height of male infants and boys aged 1 through 21 years by religion and age ; with actual number of children measured.

Age	Religion											
	Hindu			Muslim			Sikh			Jain		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Sitting height (cm.)												
Less than	221	35.5	1.18	24	34.3	3.46	2	39.3	2.05	4	33.3	1.16
3 months +	339	39.9	2.64	51	39.1	2.09	16	40.7	1.47	2	39.5	2.12
6 months +	301	42.4	3.61	48	41.8	2.75	18	42.3	2.51	7	45.4	2.94
9 months +	327	43.2	3.31	44	43.4	2.49	21	43.4	2.70	—	—	—
1 year +	2314	45.3	2.81	336	45.2	3.17	64	46.2	3.84	34	46.6	2.48
2 years +	2277	48.7	3.12	337	48.3	2.81	47	49.9	2.63	21	49.1	2.40
3 years +	2409	51.5	3.23	317	51.3	3.19	59	52.5	3.26	33	53.6	2.78
4 years +	2711	54.4	3.23	339	54.3	3.22	67	55.1	3.31	40	55.8	2.43
5 years +	2877	56.9	3.20	315	57.0	3.56	63	58.5	3.37	39	57.7	4.12
6 years +	3127	59.3	3.25	356	59.9	3.72	74	61.0	3.64	36	60.2	2.45
7 years +	3010	61.5	3.27	327	63.1	3.35	113	63.7	3.45	40	62.0	2.92
8 years +	3219	63.6	3.42	363	64.7	3.61	140	66.3	3.57	39	64.1	3.19
9 years +	3134	65.4	3.52	374	66.4	3.78	135	68.1	3.52	39	66.3	2.32
10 years +	3366	67.3	3.46	383	68.8	3.49	99	70.2	3.22	34	67.8	2.93
11 years +	3179	69.3	3.59	382	70.6	3.89	94	72.0	4.36	45	69.0	3.45
12 years +	3357	71.2	4.09	344	72.7	3.90	104	73.9	4.49	51	71.6	3.27
13 years +	3243	74.0	4.60	307	75.5	4.57	102	77.9	4.87	53	73.6	4.54
14 years +	2985	76.6	5.19	332	78.8	5.09	87	79.6	5.92	43	75.4	3.65
15 years +	2920	79.5	5.14	318	81.2	5.26	103	81.8	5.26	61	79.4	4.43
16 years +	2816	81.8	4.61	313	83.4	4.46	81	84.3	4.51	67	81.8	3.81
17 years +	2650	83.6	4.08	312	85.1	4.03	51	86.5	3.94	48	83.0	4.86
18 years +	2469	84.2	4.04	325	85.6	4.46	40	87.2	3.46	41	84.0	3.44
19 years +	2135	84.7	3.40	238	85.8	3.48	25	87.9	3.11	33	84.1	3.09
20 years +	1453	84.9	3.60	217	85.5	3.45	13	87.7	2.86	19	84.1	2.82
21 years +	144	84.5	3.28	21	88.0	3.20	5	86.9	3.44	1	84.5	—





TABLE 47

Means and standard deviations (S.D.) for weight of male infants and boys aged 1 through 21 years by religion and age ; with actual number of children measured.

Age	Religion											
	Hindu			Muslim			Sikh			Jain		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Weight (kg.)												
Less than 3 months +	221	4.2	1.36	24	3.8	1.17	2	5.9	1.08	4	3.5	0.69
3 months +	339	6.0	1.17	51	5.5	0.86	16	6.3	0.72	2	5.9	1.28
6 months +	301	6.6	1.19	48	6.9	1.02	18	6.8	1.16	7	8.3	1.64
9 months +	327	7.4	2.41	44	7.2	1.05	21	7.6	1.58	—	—	—
1 year +	2314	8.3	1.54	336	8.1	1.46	64	8.8	1.70	34	9.1	1.79
2 years +	2277	10.1	1.74	337	10.1	1.76	47	10.5	1.50	21	9.9	1.28
3 years +	2409	11.8	1.91	317	11.6	2.07	59	12.3	2.08	33	12.8	1.68
4 years +	2711	13.4	2.03	339	13.6	1.92	67	13.9	2.20	40	13.7	1.65
5 years +	2877	14.7	2.17	315	14.7	2.29	63	16.0	2.43	39	15.2	2.38
6 years +	3127	16.2	2.60	356	16.7	2.74	74	17.6	2.56	36	16.2	3.01
7 years +	3010	17.9	2.79	327	18.9	2.71	113	19.7	3.25	40	18.1	2.60
8 years +	3219	19.5	3.26	363	20.6	2.84	140	21.9	3.18	39	20.0	2.88
9 years +	3134	21.4	3.49	374	22.1	3.48	135	23.8	3.79	39	21.3	2.44
10 years +	3366	23.3	3.87	383	24.7	4.53	99	25.8	3.46	34	23.7	3.25
11 years +	3179	25.7	4.64	382	27.1	4.64	94	28.6	5.92	45	25.6	4.22
12 years +	3357	28.3	5.45	344	29.8	5.19	104	31.8	6.01	51	28.1	4.56
13 years +	3243	32.0	6.55	307	33.3	6.23	102	37.0	7.48	53	31.9	6.01
14 years +	2985	35.4	7.46	332	37.7	7.14	87	39.7	8.36	43	34.8	5.62
15 years +	2920	39.6	7.81	318	40.9	7.27	103	42.7	8.31	61	39.1	7.29
16 years +	2816	43.0	7.43	313	44.7	7.52	81	47.6	8.20	67	44.8	6.88
17 years +	2650	45.6	7.18	312	46.3	7.50	51	52.5	7.56	48	45.7	6.72
18 years +	2469	47.3	6.76	325	49.0	6.30	40	53.3	6.29	41	47.0	6.10
19 years +	2135	48.1	6.50	238	49.2	6.55	25	54.2	5.53	33	49.2	6.12
20 years +	1453	49.0	6.89	217	49.8	6.43	13	56.1	5.48	19	49.8	6.91
21 years +	144	49.8	6.74	21	50.2	5.26	5	57.4	6.11	1	49.5	—





TABLE 49  
Means and standard deviations (S.D.) for bicristal diameter of male infants and boys 1 through 21 years by socio-economic status and age ; with actual number of children measured.

Age	Socio-economic status											
	Class I			Class II			Class III			Class IV		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Bicristal diameter (cm.)												
Class V												
Class VI												
No. Mean S.D. No. Mean S.D. No. Mean S.D. No. Mean S.D. No. Mean S.D. No. Mean S.D.												
Less than												
3 months +	—	—	—	—	—	—	30	9.4	2.72	34	8.5	1.20
3 months +	—	—	—	—	—	—	37	11.0	3.49	59	10.3	1.12
6 months +	—	—	—	—	—	—	41	10.9	1.01	53	10.7	1.44
9 months +	—	—	—	—	—	—	38	12.6	1.11	43	11.6	1.23
1 year +	15	12.5	0.93	47	12.5	1.05	267	12.4	1.16	370	12.3	1.24
2 years +	18	14.7	1.59	44	13.9	1.12	280	13.8	1.37	363	13.6	1.25
3 years +	54	15.1	1.20	76	15.5	1.13	364	15.1	1.32	348	14.8	1.26
4 years +	43	16.4	1.01	119	16.0	1.28	467	16.0	1.06	432	15.9	1.21
5 years +	54	17.1	1.26	122	16.9	1.19	449	16.7	1.19	414	16.5	1.23
6 years +	50	17.6	1.14	126	17.7	1.19	498	17.4	1.25	438	17.3	1.28
7 years +	43	18.4	1.39	125	18.2	1.38	448	18.1	1.37	446	17.9	1.27
8 years +	62	18.8	1.51	131	19.1	1.39	438	18.9	1.42	439	18.7	1.40
9 years +	59	19.4	1.50	136	19.4	1.22	453	19.4	1.44	486	19.0	1.53
10 years +	71	20.4	1.66	136	20.3	1.53	523	19.9	1.47	443	19.8	1.54
11 years +	57	21.1	1.38	147	20.8	1.82	490	20.7	1.69	462	20.4	1.57
12 years +	69	21.3	1.77	155	21.6	1.99	520	21.5	1.67	517	21.0	1.71
13 years +	78	23.2	2.08	179	22.3	1.91	545	22.4	1.93	502	22.0	1.91
14 years +	66	24.4	1.74	166	23.3	1.98	514	23.2	1.93	442	23.1	1.89
15 years +	78	25.2	1.89	150	24.5	1.98	552	24.4	1.88	502	24.1	1.92
16 years +	61	26.1	1.67	161	25.3	1.73	560	25.1	1.68	501	24.9	1.64
17 years +	53	26.1	1.25	129	25.5	1.68	478	25.5	1.69	457	25.3	1.71
18 years +	42	26.1	1.85	127	25.8	1.51	432	25.7	1.60	368	25.6	1.65
19 years +	38	25.6	1.31	118	25.7	1.45	390	25.7	1.69	315	25.7	1.60
20 years +	27	25.9	0.59	50	25.8	1.65	211	25.7	1.42	185	25.6	1.60
21 years +	3	25.8		10	25.7	1.23	24	26.0	1.84	16	25.4	1.54





TABLE 51

Means and standard deviations (S.D.) for head circumference of male infants and boys aged 1 through 21 years by socio-economic status and age ; with actual number of children measured.

Socio-economic status																		
	Class I			Class II			Class III			Class IV			Class V			Class VI		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Head circumference (cm.)																		
Less than 3 months +	—	—	—	—	—	—	30	37.2	3.52	34	37.3	4.11	43	37.2	2.51	85	37.2	3.07
3 months +	—	—	—	—	—	—	37	41.0	1.95	59	40.3	2.11	67	40.3	1.68	212	40.5	2.36
6 mo ths +	—	—	—	—	—	—	41	42.2	1.47	53	41.8	1.86	73	42.0	1.64	177	41.9	3.42
9 months +	—	—	—	—	—	—	38	44.1	2.13	43	44.1	1.92	91	43.3	1.87	211	43.0	2.60
1 year +	15	45.3	1.70	47	44.1	4.75	267	45.0	3.60	370	44.9	2.01	489	43.7	5.84	1571	44.4	3.00
2 years +	15	47.0	1.06	31	46.9	1.45	278	46.2	3.74	359	46.5	2.31	418	44.7	6.47	1551	46.0	2.91
3 years +	41	47.6	2.05	62	48.5	2.06	264	47.6	1.82	264	47.5	1.62	304	47.1	3.06	1053	47.0	1.74
4 years +	28	48.6	1.47	82	48.5	1.65	271	48.2	1.95	289	48.2	1.54	264	48.0	1.74	1028	47.8	1.74
5 years +	38	49.1	1.77	80	49.3	1.72	307	48.9	1.49	282	48.5	1.65	288	48.4	1.76	1078	48.3	1.75
6 years +	35	49.5	1.24	92	49.3	1.57	336	49.1	1.42	332	48.9	1.79	341	48.9	1.57	1203	48.8	1.86
7 years +	26	49.9	1.23	89	50.1	1.41	292	49.7	1.68	313	49.3	1.54	339	49.7	1.78	1138	49.2	1.79
8 years +	34	50.2	1.59	97	50.5	1.55	303	50.0	1.52	302	49.8	1.88	362	49.8	1.81	1236	49.8	1.81
9 years +	35	50.5	1.45	88	50.6	1.18	329	50.3	1.64	337	50.0	2.28	410	49.9	1.56	1117	50.0	1.63
10 years +	47	50.8	1.25	86	51.1	1.64	366	50.6	1.69	315	50.5	1.78	381	50.3	1.76	1267	50.3	1.66
11 years +	35	51.1	1.48	104	51.5	1.68	349	50.9	1.62	313	50.7	1.61	369	50.7	1.71	1182	50.6	1.61
12 years +	41	51.5	1.58	111	51.8	1.78	362	51.5	1.61	354	51.3	1.64	340	51.0	1.64	1233	50.9	1.76
13 years +	50	52.2	1.68	117	51.8	1.57	363	51.8	1.63	316	51.5	1.75	351	51.6	2.12	1106	51.5	1.85
14 years +	36	53.0	2.02	110	52.5	1.59	342	52.3	1.79	283	52.2	1.83	337	52.0	1.71	1127	51.8	1.87
15 years +	54	53.3	1.49	103	53.0	1.95	368	52.8	1.62	316	52.0	1.66	356	52.4	1.80	1032	52.4	1.89
16 years +	47	53.8	1.85	105	54.2	2.11	361	53.3	1.80	299	53.2	1.66	291	52.8	1.80	972	52.7	1.95
17 years +	44	54.5	1.89	85	53.9	1.76	325	53.6	1.71	273	53.6	1.65	325	53.1	1.70	915	53.1	1.67
18 years +	29	54.4	1.93	92	54.1	1.67	290	53.9	1.74	215	53.7	2.25	320	53.3	1.76	872	53.2	1.71
19 years +	22	54.4	1.66	79	53.9	1.73	277	53.9	1.74	196	53.7	1.77	243	53.4	1.62	746	53.2	1.72
20 years +	17	54.7	1.19	31	54.3	1.82	117	54.1	1.45	109	53.6	1.64	124	53.6	1.62	494	53.3	1.72
21 years +	3	54.5	1.37	6	54.6	1.10	20	54.4	2.40	11	54.2	2.49	35	53.8	1.50	63	53.4	1.41





TABLE 53

Means and standard deviations (S.D.) for chest circumference of male infants and boys aged 1 through 21 years by socio-economic status and age; with actual number of children measured.

Socio-economic status												
Age	Class I		Class II		Class III		Class IV		Class V		Class VI	
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Chest circumference (cm.)												
Less than 3 months	—	—	—	—	—	—	34	34.6	4.18	43	35.4	3.47
3 months +	—	—	—	—	—	—	59	38.9	3.05	67	38.6	2.01
6 months +	—	—	—	—	—	—	53	40.2	3.66	73	40.3	2.58
9 months +	—	—	—	—	—	—	43	42.6	2.53	91	42.4	4.71
1 year +	15	45.0	2.59	44	44.2	4.04	364	43.9	3.36	492	42.9	5.96
2 years +	16	47.7	2.81	33	47.4	2.10	353	46.5	3.46	417	44.9	6.60
3 years +	49	49.0	2.02	61	49.6	2.30	240	48.2	2.25	308	48.1	3.50
4 years +	24	51.1	1.89	74	50.2	5.50	257	49.7	3.71	285	49.5	4.36
5 years +	33	52.6	3.07	68	52.1	2.40	250	50.2	6.67	295	51.1	3.85
6 years +	31	54.2	2.88	80	53.0	2.46	291	52.5	4.06	347	52.8	2.82
7 years +	21	55.0	2.96	75	55.6	3.54	289	54.0	3.90	338	54.4	2.72
8 years +	34	56.7	2.34	81	56.9	3.10	264	56.0	3.01	382	55.6	5.54
9 years +	29	60.1	3.24	67	58.3	2.62	300	56.9	5.99	418	57.3	4.16
10 years +	41	61.5	3.34	72	60.5	3.16	266	59.2	3.88	397	58.7	5.11
11 years +	33	65.1	4.84	97	63.0	4.40	255	60.8	4.03	402	60.3	6.80
12 years +	41	66.8	4.28	103	64.1	7.58	276	62.7	4.29	356	63.0	4.55
13 years +	43	68.7	7.23	103	66.7	5.17	249	65.3	6.61	358	65.4	5.81
14 years +	35	71.5	7.71	94	68.9	4.39	241	66.6	10.26	329	68.4	6.21
15 years +	48	74.3	6.45	81	71.1	9.93	246	70.4	8.99	330	70.1	8.90
16 years +	42	75.2	5.20	88	75.9	9.14	231	73.4	9.60	292	73.0	8.25
17 years +	42	78.3	4.18	74	77.0	10.10	205	73.8	10.65	309	75.0	7.19
18 years +	25	80.6	4.45	76	77.7	3.90	168	76.7	6.90	304	75.3	10.20
19 years +	22	80.2	4.20	69	76.8	10.14	165	76.7	7.22	246	75.8	8.22
20 years +	13	80.7	4.04	31	79.4	4.16	87	78.3	5.15	147	79.7	4.85
21 years +	3	82.5	1.73	6	79.5	5.59	8	80.4	3.44	34	79.5	3.00

TABLE 54  
Means and standard deviations (S.D.) for chest circumference of female infants and girls aged 1 through 21 years by socio-economic status and age ; with actual number of children measured.

Socio-economic status															
Class I			Class II			Class III			Class IV			Class V		Class VI	
Chest circumference (cm.)															
Age	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than 3 months +	—	—	—	18	34.3	4.37	25	33.2	3.50	34	33.6	3.54	111	33.1	3.52
3 months +	—	—	—	29	38.4	2.05	42	37.7	2.34	48	37.7	2.34	158	37.4	1.92
6 months +	—	—	—	27	39.8	2.49	54	38.8	4.60	72	39.0	1.95	196	38.8	4.27
9 months +	—	—	—	30	41.4	1.90	49	40.4	2.86	45	40.1	2.43	183	40.0	2.56
1 year +	19	43.6	2.21	272	43.2	4.28	406	42.0	5.31	386	42.7	2.39	1430	42.1	3.84
2 years +	34	46.1	2.35	276	45.1	4.24	388	45.6	3.34	356	45.3	2.52	1349	44.9	3.73
3 years +	21	48.1	2.48	230	48.0	2.27	296	47.1	3.51	307	47.3	3.29	1198	46.6	5.27
4 years +	38	49.2	2.78	235	49.0	2.19	253	48.6	2.43	221	49.0	2.68	1109	48.9	3.63
5 years +	44	50.8	2.40	307	50.6	2.60	302	49.8	3.34	261	50.4	2.73	1098	49.8	4.94
6 years +	44	52.5	3.48	86	52.3	4.30	337	51.5	3.88	364	51.5	4.59	1238	51.0	5.44
7 years +	35	54.4	3.25	307	54.2	4.12	334	52.3	6.84	317	53.0	4.64	1307	52.7	6.08
8 years +	37	55.3	4.33	302	55.5	3.33	369	54.2	4.98	325	54.8	3.09	1170	54.6	5.54
9 years +	41	55.8	5.12	338	56.7	3.78	353	56.1	3.45	337	56.2	4.29	1209	56.0	5.34
10 years +	37	59.9	5.29	342	58.5	4.91	370	57.9	3.61	327	58.8	4.43	801	58.2	5.16
11 years +	40	63.6	5.60	331	61.2	5.06	333	60.5	5.47	270	60.5	6.01	656	60.1	4.24
12 years +	48	66.5	5.41	355	64.2	7.24	293	62.5	7.64	238	63.7	5.73	631	62.4	7.13
13 years +	38	70.6	6.83	337	68.3	6.11	257	67.0	7.26	203	66.9	5.84	526	65.4	7.77
14 years +	34	73.2	5.97	317	71.2	5.74	260	69.9	7.43	175	70.2	5.66	450	68.9	6.75
15 years +	43	73.3	5.59	297	71.8	9.73	229	71.2	6.08	146	72.4	5.33	476	70.5	6.14
16 years +	37	75.5	5.33	263	73.1	8.17	241	72.3	5.32	132	74.0	5.54	434	71.9	6.54
17 years +	35	76.5	5.04	268	73.1	10.30	150	71.1	6.68	103	74.9	5.14	348	71.8	5.67
18 years +	34	77.0	6.06	239	73.6	9.83	130	72.3	8.68	96	75.1	6.31	304	72.2	7.31
19 years +	27	77.4	7.00	216	74.4	5.31	121	72.8	10.49	62	75.3	6.41	289	73.0	6.92
20 years +	15	76.5	5.14	122	74.7	6.27	78	73.0	5.83	44	75.8	5.66	241	73.2	5.89
21 years +	3	75.2	6.66	10	77.7	4.39	7	75.5	5.45	8	76.8	6.34	20	75.0	5.73





TABLE 56  
Means and standard deviations (S.D.) for standing height of female infants and girls aged 1 through 21 years by socio-economic status and age ; with actual number of children measured.

Age	Socio-economic status											
	Class I			Class II			Class III			Class IV		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Standing height (cm.)												
Class V												
Class VI												
No. Mean S.D. No. Mean S.D. No. Mean S.D. No. Mean S.D. No. Mean S.D.												
Less than 3 months +	—	—	—	—	—	—	18	53.3	4.57	25	53.1	5.49
3 months +	—	—	—	—	—	—	29	60.6	4.36	42	60.4	5.84
6 months +	—	—	—	—	—	—	27	65.5	3.19	54	64.2	4.87
9 months +	—	—	—	—	—	—	30	67.3	2.70	49	67.0	5.10
1 year +	19	76.3	5.58	43	73.7	5.99	274	73.7	4.91	407	72.9	4.90
2 years +	35	82.2	6.75	52	83.4	5.84	283	82.2	5.32	395	81.1	5.23
3 years +	33	91.3	6.81	71	91.2	5.44	315	89.8	7.04	460	88.3	5.32
4 years +	61	99.0	5.42	114	97.6	5.92	388	97.0	6.19	422	94.8	5.48
5 years +	71	106.6	6.28	135	105.5	5.67	471	104.6	6.13	480	101.5	7.41
6 years +	73	112.6	6.56	134	110.2	6.30	545	109.5	7.47	520	107.6	8.01
7 years +	55	116.3	7.15	132	115.6	6.51	503	114.4	9.00	506	113.1	8.18
8 years +	61	122.3	6.76	135	121.8	6.69	483	121.1	6.85	532	117.5	7.89
9 years +	62	127.1	7.28	145	126.0	7.57	536	124.9	6.74	519	123.1	6.08
10 years +	62	132.5	8.15	169	132.8	7.95	571	131.5	6.97	541	128.3	7.23
11 years +	86	141.6	7.18	177	137.9	8.10	532	135.6	8.88	583	133.3	10.69
12 years +	90	145.5	6.63	170	144.1	7.83	653	141.8	8.32	563	138.8	11.35
13 years +	85	149.0	6.04	179	145.9	7.94	652	144.9	11.85	558	143.7	9.24
14 years +	95	152.4	6.34	201	151.3	9.09	613	148.2	11.87	477	147.2	9.95
15 years +	103	153.1	6.71	216	152.5	9.12	635	151.6	8.76	461	149.3	7.25
16 years +	119	153.7	6.24	213	153.1	4.95	627	151.9	5.55	478	150.4	6.98
17 years +	99	154.4	4.92	219	153.7	5.69	556	152.0	6.84	367	151.0	10.27
18 years +	101	154.1	5.12	192	153.6	6.04	467	152.2	5.73	254	151.6	5.80
19 years +	79	154.4	5.12	163	153.0	5.37	386	152.5	5.33	230	150.8	5.53
20 years +	57	154.1	5.12	72	153.5	5.29	232	153.2	5.78	154	151.0	6.09
21 years +	12	156.7	4.35	10	154.0	5.66	17	153.4	4.89	19	151.2	4.97











TABLE 60

Means and standard deviations (S.D.) for weight of female infants and girls aged 1 through 21 years by socio-economic status and age ; with actual number of children measured.

Socio-economic status																		
Age	Class I		Class II		Class III		Class IV		Class V		Class VI							
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.						
	Weight (kg.)																	
Less than 3 months +	—	—	—	—	—	—	18	4.2	1.13	25	3.7	1.26	34	4.0	1.22	111	4.2	1.21
3 months +	—	—	—	—	—	—	29	5.7	1.03	42	5.3	0.98	48	5.5	0.92	158	5.3	0.93
6 months +	—	—	—	—	—	—	27	6.6	1.96	54	6.2	1.07	72	6.1	0.92	196	5.9	1.06
9 months +	—	—	—	—	—	—	30	7.1	1.18	49	6.7	1.01	56	6.6	0.89	183	6.4	1.19
1 year +	19	8.8	1.96	43	8.3	1.40	274	8.5	2.92	407	8.0	1.89	386	7.8	1.25	1428	7.5	1.33
2 years +	35	10.3	1.63	52	10.5	1.56	283	10.0	1.91	395	10.0	1.72	360	9.3	1.50	1348	9.2	1.66
3 years +	33	12.4	2.41	71	12.1	2.32	315	12.0	1.83	460	11.6	1.86	409	11.2	1.58	1506	10.9	1.99
4 years +	61	14.1	1.99	114	14.0	2.24	388	13.5	2.52	422	12.9	1.91	327	12.9	1.91	1411	12.4	2.08
5 years +	71	16.1	2.32	135	15.7	2.08	471	15.1	2.23	480	14.4	2.12	383	14.4	2.56	1389	14.0	2.21
6 years +	73	18.1	2.89	134	17.5	2.83	515	17.1	1.57	520	16.1	2.61	508	15.7	2.42	1520	15.4	2.42
7 years +	55	19.7	3.81	132	18.9	2.92	533	18.4	2.80	506	17.3	2.95	444	17.3	2.40	1584	17.2	2.98
8 years +	60	21.6	4.32	135	20.9	3.12	483	20.5	3.29	532	19.1	3.13	457	18.7	2.89	1454	19.1	3.09
9 years +	62	23.6	4.66	145	22.9	4.69	536	22.4	4.20	519	21.1	3.03	476	20.7	3.27	1464	20.7	3.51
10 years +	62	25.7	5.00	168	27.3	7.20	571	24.7	4.47	541	23.5	4.17	494	23.0	4.27	1078	22.4	4.66
11 years +	86	31.0	6.08	177	29.6	6.65	582	27.7	5.61	583	26.2	5.19	441	25.1	4.68	902	24.7	4.84
12 years +	90	35.2	6.32	170	33.7	7.01	658	31.8	6.08	563	29.2	6.33	422	28.2	5.74	923	27.5	6.20
13 years +	86	39.3	7.74	179	36.5	7.22	662	34.8	7.59	558	33.3	6.79	379	31.7	5.80	804	31.2	7.02
14 years +	95	41.6	5.59	204	39.9	6.45	613	38.4	7.42	477	36.6	6.96	330	35.3	5.90	764	34.4	7.22
15 years +	103	43.4	6.72	216	42.4	6.71	635	40.2	6.69	461	38.5	6.83	290	37.7	6.46	699	36.7	7.30
16 years +	119	45.4	6.95	213	43.3	7.37	627	42.0	6.30	478	40.3	6.74	260	39.9	6.11	628	38.9	6.19
17 years +	99	45.6	8.01	219	43.9	6.36	555	42.5	6.42	367	41.6	6.73	206	41.0	5.43	500	40.6	6.69
18 years +	101	46.2	6.44	192	45.3	6.18	467	42.7	7.05	254	41.8	7.43	191	41.4	5.83	400	40.1	7.66
19 years +	79	46.9	5.93	163	45.9	7.16	385	43.0	6.15	230	41.9	7.28	139	41.3	6.99	397	40.6	6.72
20 years +	57	45.2	6.29	72	45.7	8.23	232	45.0	7.48	154	42.3	7.35	89	41.3	5.79	298	41.9	6.53
21 years +	12	45.2	4.94	10	45.9	5.72	17	44.7	6.12	19	41.9	5.13	12	43.0	5.29	23	41.6	9.28



TABLE

Means and standard deviations (S.D.) for bicristal  
21 years by per-capita income and age ;

Age	Per-capita								
	Group I			Group II			Group III		
	Bicristal								
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than									
3 months	10	9.2	1.21	33	9.5	3.04	57	8.8	1.22
3 months +	24	10.0	0.98	83	10.2	1.74	120	10.6	2.52
6 months +	21	10.7	0.83	76	10.7	1.28	41	10.9	1.01
9 months +	29	11.5	1.57	67	11.4	3.44	30	11.0	1.00
1 year +	157	12.0	1.91	513	11.8	1.13	890	12.1	1.31
2 years +	164	13.5	1.33	507	13.2	1.21	845	13.4	1.24
3 years +	190	14.3	1.21	511	14.3	1.28	807	14.6	1.19
4 years +	178	15.3	1.29	547	15.4	1.24	838	15.5	1.67
5 years +	183	16.3	1.40	563	16.2	1.34	853	16.3	1.28
6 years +	209	16.9	1.45	584	17.0	1.35	950	17.0	1.39
7 years +	210	17.6	1.48	569	17.7	1.40	941	17.7	1.38
8 years +	236	17.9	1.45	645	18.2	1.45	997	18.4	1.43
9 years +	192	18.6	1.54	574	18.8	1.58	1049	19.0	1.51
10 years +	250	19.5	1.49	628	19.4	1.55	1031	19.7	1.45
11 years +	231	20.3	1.62	580	20.3	1.63	955	20.2	1.51
12 years +	214	20.9	1.65	607	21.0	1.72	1035	21.0	1.80
13 years +	196	21.8	2.03	539	22.0	1.87	1008	21.9	1.83
14 years +	153	22.4	2.21	567	22.6	2.12	989	22.9	1.96
15 years +	144	23.7	2.10	487	23.7	1.89	1023	23.9	1.93
16 years +	136	24.3	1.75	479	24.2	1.97	959	24.6	1.82
17 years +	123	25.1	1.55	471	25.0	1.78	981	25.0	1.69
18 years +	129	25.3	1.88	439	25.1	1.67	842	25.3	1.67
19 years +	117	25.5	1.56	355	25.2	1.61	732	25.4	1.54
20 years +	89	25.5	1.87	315	25.4	1.50	454	25.6	1.66
21 years +	8	26.1	1.30	22	25.5	1.50	54	25.4	1.50

61

diameter of male infants and boys aged 1 through  
with actual number of children measured.

income											
Group IV			Group V			Group VI			Group VII		
diameter (cm.)											
No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
58	8.6	1.27	19	8.7	1.11	12	8.3	1.00	6	8.3	1.27
102	10.2	2.93	29	10.5	3.00	11	10.4	1.15	9	10.5	0.71
95	10.7	1.44	34	10.9	0.95	24	11.0	0.86	10	11.4	0.70
106	11.7	1.67	25	11.4	1.15	15	11.7	1.27	8	11.8	1.67
706	12.3	1.31	183	12.4	1.15	120	12.5	1.40	69	12.5	1.03
677	13.5	1.20	167	13.8	1.40	111	13.8	1.26	72	14.3	1.17
639	14.7	1.21	223	15.0	1.36	138	15.1	1.21	154	15.5	1.30
687	15.7	1.12	268	16.0	1.09	224	16.0	1.09	156	16.3	1.07
731	16.5	1.26	260	16.7	1.21	167	16.7	1.12	168	16.9	1.21
746	17.2	1.34	252	17.3	1.11	198	17.5	1.22	169	17.7	1.21
717	18.0	1.31	240	18.0	1.34	193	18.3	1.33	158	18.3	1.33
746	18.7	1.42	254	18.7	1.34	170	18.7	1.18	200	19.0	1.36
812	19.1	1.50	260	19.4	1.35	189	19.3	1.35	157	19.6	1.26
814	19.8	1.46	301	19.9	1.50	202	20.0	1.39	183	20.3	1.61
850	20.5	1.59	295	20.6	1.53	201	20.8	1.68	167	20.8	1.61
940	21.2	1.73	275	21.5	1.58	188	21.4	1.69	194	21.4	1.71
903	22.1	1.86	303	22.2	2.04	217	22.3	1.96	207	22.9	2.01
858	23.0	1.87	268	23.0	1.99	190	23.3	1.98	207	23.8	2.06
898	24.0	1.95	334	24.3	1.99	202	24.4	1.89	199	24.7	2.00
836	24.7	1.73	308	25.0	1.76	212	25.1	1.66	197	25.2	1.82
840	25.2	1.74	232	25.5	1.65	162	25.3	1.62	177	25.7	1.70
763	25.4	1.60	230	25.7	1.52	172	25.8	1.52	146	25.7	1.46
671	25.5	1.77	196	25.7	1.62	151	25.8	1.56	130	25.7	1.71
383	25.5	1.57	122	25.7	1.43	65	25.8	1.67	67	25.7	1.41
43	25.4	1.68	20	25.4	1.68	4	25.5	0.82	11	26.1	0.93



TABLE  
Means and standard deviations (S.D.) for bicristal  
21 years by per-capita income and age ;

Age	Per-capita								
	Group I			Group II			Group III		
	Bicristal								
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than									
3 months	13	9.7	2.54	37	8.7	1.13	68	8.8	1.26
3 months+	20	10.3	0.95	61	9.7	0.90	102	9.9	1.25
6 months+	23	10.5	0.90	69	10.3	0.87	129	10.2	0.98
9 months+	21	10.7	1.00	59	10.7	1.30	114	10.7	0.81
1 year +	154	11.8	1.47	448	11.6	1.33	754	11.6	1.13
2 years +	135	13.0	1.28	432	13.0	1.44	719	13.0	1.29
3 years +	157	14.2	1.21	537	14.2	1.20	772	14.1	1.30
4 years +	160	15.1	1.27	446	15.0	1.33	744	15.2	1.17
5 years +	167	15.9	1.44	444	16.0	1.37	734	16.1	1.29
6 years +	171	16.6	1.48	490	16.7	1.26	868	16.8	1.31
7 years +	184	17.8	3.54	509	17.5	1.47	838	17.6	1.41
8 years +	175	18.0	1.44	443	18.1	1.61	841	18.3	1.46
9 years +	152	18.6	1.50	464	18.8	1.68	813	18.9	1.47
10 years +	138	19.5	1.96	384	19.5	1.73	849	19.7	1.76
11 years +	117	20.1	1.70	343	20.2	2.49	712	20.6	1.89
12 years +	97	20.8	2.13	345	21.1	2.17	743	21.5	1.99
13 years +	92	22.6	2.16	284	22.3	3.72	666	22.5	2.18
14 years +	117	23.5	2.33	259	23.3	2.05	569	23.5	1.96
15 years +	71	23.8	2.42	222	24.1	1.94	492	24.4	1.88
16 years +	50	24.1	2.02	189	24.3	1.87	496	24.8	1.82
17 years +	50	24.7	2.12	178	24.8	1.60	372	25.2	1.80
18 years +	43	25.1	1.88	121	24.9	1.69	281	25.0	1.73
19 years +	48	25.1	1.40	107	25.0	1.87	248	25.1	1.68
20 years +	29	25.4	1.52	77	24.5	1.92	159	25.7	1.82
21 years +	2	26.0	0.71	6	24.5	1.10	16	25.9	1.46

62

diameter of female infants and girls aged 1 through  
with actual number of children measured.

income											
Group IV			Group V			Group VI			Group VII		
diameter (cm.)											
No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
46	8.9	2.64	18	8.9	1.42	5	8.7	0.64	6	8.5	1.90
74	9.8	0.94	15	9.9	0.63	10	10.3	0.92	8	9.5	1.20
90	10.6	0.93	20	10.3	1.07	16	10.4	0.77	10	10.9	0.84
76	10.8	1.07	22	10.5	0.49	18	11.3	0.71	6	11.2	0.82
630	11.8	1.17	193	12.1	2.57	132	12.1	1.35	56	12.5	1.30
599	13.3	1.19	162	13.6	1.33	121	13.6	1.36	82	13.5	1.43
644	14.5	1.15	167	14.9	1.03	133	14.8	1.27	107	14.9	1.39
618	15.5	1.42	224	15.5	1.23	171	15.7	1.18	151	16.0	1.08
632	16.3	1.43	246	16.5	1.28	187	16.6	1.27	192	16.8	1.12
761	17.0	1.37	279	17.3	1.28	190	17.9	2.06	199	17.5	1.46
740	17.8	1.39	268	18.0	1.34	167	18.1	1.37	165	18.1	1.38
779	18.5	1.47	266	18.7	1.41	155	18.6	1.41	147	19.2	2.78
765	19.1	1.52	251	19.3	1.53	208	19.7	1.75	169	19.6	1.69
811	19.9	1.79	297	20.2	1.74	201	20.5	1.70	170	20.8	2.04
834	20.9	1.88	306	21.1	1.91	235	21.4	2.10	188	21.8	2.22
837	22.1	1.96	303	22.5	4.57	233	22.8	2.01	212	22.9	1.98
828	23.1	1.99	318	23.5	2.18	218	23.6	2.03	220	24.0	2.09
751	24.2	1.88	326	24.4	1.66	237	24.7	2.04	211	24.8	1.59
715	24.7	1.85	304	25.1	1.82	262	25.2	1.74	266	25.5	1.77
678	25.2	1.64	309	25.5	1.67	254	25.7	1.71	291	25.7	1.89
525	25.5	1.68	295	25.5	1.69	209	25.6	1.79	264	25.9	1.97
403	25.4	1.86	250	25.8	1.92	182	25.6	1.76	268	26.0	1.72
357	25.5	1.70	195	25.7	1.78	179	25.7	1.54	216	26.0	1.65
228	25.4	1.71	100	25.8	1.74	108	25.8	1.94	124	26.0	1.80
22	26.2	1.36	10	26.0	1.78	13	25.9	1.45	17	25.7	1.15



TABLE

Means and standard deviations (S.D.) for head  
21 years by per-capita income and age ;

Age	Per-capita								
	Group I			Group II			Group III		
	Head circumference								
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than									
3 months	10	38.3	2.13	33	37.3	2.87	58	37.3	2.98
3 months +	24	39.5	1.45	83	40.5	2.60	102	40.7	2.62
6 months +	21	42.0	1.57	76	42.3	4.32	41	42.2	1.47
9 months +	29	43.5	1.64	67	43.8	4.74	30	43.1	1.61
1 year +	156	44.3	2.08	513	43.9	4.39	888	44.2	4.00
2 years +	162	44.9	2.34	504	45.5	4.23	837	46.0	3.38
3 years +	105	46.9	2.28	326	46.8	1.84	586	47.1	2.20
4 years +	101	48.2	1.86	322	47.9	1.69	589	47.9	1.82
5 years +	102	48.5	1.94	326	48.3	1.67	557	48.3	1.74
6 years +	106	49.1	1.90	343	48.7	1.62	698	48.8	1.74
7 years +	123	49.6	1.87	347	49.2	1.77	649	49.2	1.72
8 years +	123	49.8	1.81	398	49.7	1.67	685	49.8	1.90
9 years +	94	50.0	1.46	350	50.0	1.83	722	50.0	1.51
10 years +	124	50.4	1.73	372	50.2	1.68	724	50.2	1.78
11 years +	132	50.8	1.75	337	50.6	1.61	630	50.5	1.65
12 years +	123	50.9	1.88	340	50.8	1.78	676	51.0	1.83
13 years +	116	51.6	1.98	304	51.5	2.26	660	51.5	1.83
14 years +	99	51.7	2.09	342	51.8	1.81	680	51.8	1.92
15 years +	95	52.2	1.63	316	52.4	1.94	677	52.4	1.84
16 years +	84	52.7	1.67	285	52.5	1.87	631	53.0	1.97
17 years +	75	52.9	1.81	257	53.3	1.75	657	53.2	1.67
18 years +	76	53.2	1.50	261	53.2	1.72	546	53.3	1.78
19 years +	62	53.5	1.40	205	53.3	1.64	476	53.2	1.74
20 years +	38	53.6	1.69	157	53.4	1.76	247	53.3	1.78
21 years +	8	54.1	1.06	19	53.6	1.62	45	53.4	1.68

63

circumference of male infants and boys aged 1 through  
with actual number of children measured.

income											
Group IV			Group V			Group VI			Group VII		
(cm.)											
No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
58	36.8	3.59	19	36.8	3.21	12	36.9	2.83	6	39.0	3.19
102	41.3	3.44	29	40.5	2.95	11	41.2	1.89	9	41.4	1.69
95	42.3	2.58	34	41.9	1.64	24	42.7	1.49	10	43.3	1.14
106	43.5	1.99	25	43.9	2.02	15	43.6	2.62	8	44.4	2.42
703	44.8	2.70	181	45.3	1.62	120	44.8	4.41	69	44.7	4.83
673	45.9	3.63	165	46.3	3.47	108	46.9	1.67	68	47.2	1.50
463	47.2	1.73	160	47.6	1.70	101	47.4	1.83	110	48.3	2.16
454	47.9	1.68	144	48.1	1.71	124	48.2	2.21	87	48.6	1.53
510	48.5	1.67	170	48.8	1.59	102	48.9	1.39	118	49.2	1.79
546	48.9	1.59	167	49.1	1.42	132	49.4	1.84	110	49.5	1.40
507	49.4	1.90	164	49.5	1.66	121	49.7	1.45	87	50.0	1.38
517	49.8	1.78	180	50.0	1.75	103	49.9	1.47	122	50.4	1.60
573	50.0	2.02	160	50.4	1.38	132	50.4	2.04	98	50.7	1.31
590	50.4	1.75	221	50.6	1.55	129	50.6	1.62	112	51.1	1.49
591	50.7	1.67	207	50.9	1.65	137	51.1	1.69	98	51.4	1.62
655	51.2	1.62	176	51.4	1.62	138	51.4	1.82	112	51.6	1.68
585	51.6	1.81	209	51.7	1.68	142	51.8	1.63	126	51.9	1.69
579	52.1	1.77	163	52.3	1.94	110	52.3	1.64	134	52.6	1.75
611	52.6	1.80	208	52.8	1.71	133	52.7	1.76	132	53.1	1.57
531	52.9	1.76	181	53.4	1.73	143	53.5	1.71	135	53.9	2.10
545	53.4	1.73	141	53.3	1.65	117	53.7	1.63	122	54.1	1.90
483	53.5	2.08	159	53.7	1.43	115	53.9	1.89	99	54.0	1.75
425	53.5	1.71	133	53.9	2.03	103	53.7	1.42	94	54.0	1.72
218	53.5	1.56	73	53.9	1.23	32	54.5	1.56	42	54.5	1.65
37	54.1	1.92	16	53.9	1.71	4	54.5	2.83	7	54.2	1.25



TABLE

Means and standard deviations (S.D.) for head  
21 years by per-capita income and age ;

Age	Per-capita								
	Group I			Group II			Group III		
	Head circumference								
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than									
3 months	13	33.4	1.73	37	35.9	2.99	68	35.7	3.34
3 months +	20	38.9	2.04	61	39.1	2.00	102	39.2	2.21
6 months +	23	41.1	2.19	69	40.7	1.87	129	40.8	2.55
9 months +	21	41.6	1.07	59	41.4	1.31	114	42.0	2.00
1 year +	154	43.6	1.87	446	43.5	1.94	753	43.5	1.85
2 years +	132	45.2	1.84	424	45.0	1.72	717	44.9	1.72
3 years +	112	46.4	1.86	352	46.2	1.82	570	46.1	1.91
4 years +	98	47.1	1.79	287	47.1	1.86	525	46.9	1.75
5 years +	103	47.8	1.99	280	47.6	1.70	502	47.6	1.69
6 years +	108	48.0	1.96	298	48.1	1.65	646	48.2	1.68
7 years +	116	48.7	3.74	337	48.8	1.89	611	48.7	1.74
8 years +	110	49.2	1.98	280	49.2	1.49	632	49.1	1.60
9 years +	85	49.8	1.42	286	49.6	1.60	607	49.6	1.54
10 years +	97	49.7	1.85	280	50.0	1.44	660	49.9	1.77
11 years +	84	50.3	1.31	238	50.2	2.25	539	50.5	2.12
12 years +	65	50.9	1.30	226	51.0	1.95	541	50.8	1.75
13 years +	71	51.5	1.55	179	51.3	1.87	463	51.3	1.70
14 years +	92	52.3	1.48	148	51.7	2.01	399	51.6	1.69
15 years +	41	52.9	1.77	121	52.1	2.62	308	52.1	1.89
16 years +	24	52.4	1.41	88	52.3	1.54	321	52.3	1.74
17 years +	25	52.1	1.81	87	52.5	1.94	218	52.6	1.69
18 years +	26	52.4	1.90	60	52.4	1.85	156	52.6	1.58
19 years +	24	53.2	3.50	40	52.2	1.59	132	52.7	1.50
20 years +	8	53.4	1.96	26	52.0	1.58	72	52.7	1.61
21 years +	2	54.0	2.12	4	52.5	0.82	9	53.6	2.03

64

circumference of female infants and girls aged 1 through  
with actual number of children measured.

income											
Group IV			Group V			Group VI			Group VII		
(cm.)											
No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
46	35.9	3.51	18	36.2	3.29	5	36.3	2.90	6	34.8	4.13
74	39.1	2.06	15	40.1	3.40	10	39.9	1.71	8	40.0	3.78
90	41.0	1.85	20	41.3	2.33	16	41.4	1.54	10	41.5	3.09
76	42.1	1.78	22	42.2	1.34	18	42.7	1.79	6	42.3	0.98
630	43.7	1.84	192	43.9	1.72	132	44.1	1.73	56	43.9	2.03
592	45.3	1.63	158	45.5	1.75	120	45.7	1.81	81	45.8	1.43
462	46.3	1.57	121	46.5	1.78	96	46.6	1.68	90	46.8	1.43
422	47.1	1.91	153	47.3	1.99	93	47.4	1.81	95	47.6	1.52
454	47.7	1.56	175	48.0	1.44	113	48.1	1.94	107	48.5	1.60
556	48.4	1.63	178	48.5	1.53	119	48.7	1.29	121	48.9	1.49
539	48.9	1.76	170	49.0	1.44	105	49.1	1.44	107	49.4	1.69
565	49.5	1.67	186	49.6	1.80	98	49.2	1.58	86	49.7	1.53
564	49.6	1.75	174	50.0	1.51	132	50.0	1.67	90	50.3	1.83
616	50.1	1.55	219	50.3	1.69	121	50.7	1.49	106	50.6	1.76
598	50.6	1.88	212	50.9	1.67	143	51.0	2.00	102	51.3	1.88
612	51.0	1.69	214	51.1	3.50	154	51.7	1.64	123	51.7	1.79
591	51.6	1.75	209	51.7	1.75	142	51.8	1.58	123	52.3	1.73
533	52.0	1.56	232	52.0	1.57	147	52.4	1.69	112	52.4	1.41
483	52.1	1.63	174	52.1	1.90	147	52.5	1.84	153	52.6	2.01
475	52.3	1.58	206	52.3	1.61	146	52.5	1.51	143	52.9	1.46
316	52.4	1.61	190	52.5	1.62	130	52.6	1.53	143	52.7	1.51
244	52.4	1.47	159	52.3	1.61	108	52.4	1.65	135	52.7	1.68
205	52.4	1.38	115	52.6	1.67	91	52.2	1.45	92	52.7	1.50
121	52.4	1.49	44	52.8	1.75	48	53.0	1.73	43	53.2	2.16
18	52.5	1.46	7	53.5	1.16	11	52.9	1.12	11	53.2	1.01



TABLE

Means and standard deviations (S.D.) for chest  
through 21 years by per-capita income and age ;

Age	Per-capita								
	Group I			Group II			Group III		
	Chest circumference								
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than									
3 months	10	36.5	2.94	33	35.5	3.59	57	35.0	3.75
3 months +	24	37.9	2.13	83	39.2	4.98	120	38.8	2.52
6 months +	21	40.6	2.36	76	40.3	2.90	41	41.2	2.39
9 months +	29	42.6	2.69	67	42.3	2.29	30	41.4	2.40
1 year +	152	43.1	4.50	504	42.9	4.56	874	43.0	4.49
2 years +	161	45.3	6.68	490	45.3	5.40	818	45.7	4.91
3 years +	139	47.9	3.64	389	47.6	4.52	588	48.0	3.37
4 years +	124	49.2	6.41	399	49.4	5.26	594	49.7	3.64
5 years +	144	51.2	5.17	430	51.3	3.51	600	50.7	5.58
6 years +	140	53.4	3.17	455	52.8	4.27	725	52.5	4.50
7 years +	163	54.8	4.95	438	54.7	3.73	698	54.1	3.41
8 years +	167	55.1	6.62	486	55.6	6.76	705	55.1	7.20
9 years +	128	57.5	5.84	418	57.2	6.06	762	57.0	4.93
10 years +	199	59.5	3.57	468	58.8	5.92	742	58.9	4.39
11 years +	182	61.0	5.70	430	60.0	7.68	664	60.4	5.26
12 years +	170	63.2	4.06	433	62.7	4.98	689	62.8	4.36
13 years +	143	65.6	4.47	383	65.3	6.29	636	65.0	6.20
14 years +	112	68.9	5.34	396	67.6	7.31	652	67.5	7.96
15 years +	93	71.2	5.25	334	70.2	8.52	642	70.4	9.23
16 years +	101	72.7	8.40	320	72.0	8.20	589	72.6	10.76
17 years +	95	75.4	4.21	281	75.2	6.35	599	75.0	7.95
18 years +	92	76.1	8.58	302	75.9	9.43	530	76.2	8.33
19 years +	89	77.6	9.02	238	76.9	7.36	482	76.4	9.51
20 years +	65	78.6	8.60	222	77.5	6.30	290	78.0	7.45
21 years +	7	81.1	3.74	17	78.7	8.05	41	79.6	4.01

65

circumference of male infants and boys aged 1  
with actual number of children measured.

income											
Group IV			Group V			Group VI			Group VII		
(cm.)											
No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
58	34.0	5.89	19	35.8	4.90	12	34.9	2.91	6	32.8	4.31
102	39.1	2.73	29	39.1	2.69	11	39.9	2.85	9	40.7	2.68
95	41.2	2.98	34	40.2	2.52	24	41.0	2.48	10	42.5	1.94
106	42.6	4.61	25	42.1	2.52	15	41.9	4.45	8	42.7	3.60
701	43.7	3.81	183	43.9	3.78	120	43.9	5.74	69	44.4	5.23
667	46.0	4.36	164	46.4	4.85	109	47.1	2.28	71	47.8	2.55
476	48.1	2.42	159	49.0	2.57	108	48.5	4.67	110	48.6	7.45
460	49.5	3.81	152	49.4	6.20	126	50.3	2.26	81	50.5	5.87
498	50.7	5.03	166	51.5	2.82	97	50.9	5.58	101	52.1	2.50
536	52.3	4.61	158	52.8	2.60	113	53.2	3.38	97	53.4	2.57
488	54.2	4.11	151	53.7	5.04	114	54.9	2.94	79	55.7	3.48
495	55.9	4.44	162	56.5	3.70	95	56.1	2.75	107	56.9	6.29
535	57.5	3.77	149	57.9	3.70	120	57.3	5.84	87	59.1	2.78
564	59.1	5.14	204	59.6	3.73	120	60.0	3.66	95	61.2	3.61
559	60.8	6.12	202	61.1	5.75	130	62.4	4.20	93	63.3	4.59
595	62.9	5.51	161	63.4	6.31	127	63.5	4.46	101	63.9	7.19
534	65.8	4.91	187	66.3	5.35	123	66.9	5.34	105	68.3	6.22
509	67.4	8.49	144	67.9	5.08	96	67.8	10.45	121	70.9	6.30
527	70.6	7.84	185	68.9	7.25	111	70.7	10.80	114	71.5	11.68
484	72.4	8.50	154	73.1	8.04	129	74.8	7.63	118	75.9	8.75
460	74.1	7.82	121	75.9	7.98	106	75.9	4.45	109	77.2	8.43
428	75.8	8.03	147	76.6	9.32	94	76.4	10.76	90	78.0	8.67
405	77.0	9.02	122	77.3	7.94	96	77.2	8.02	87	78.7	8.89
215	78.7	4.70	67	78.5	4.93	31	79.5	4.48	36	79.7	4.44
35	79.2	3.75	15	79.7	3.41	4	79.5	2.16	7	80.4	5.43



TABLE

Means and standard deviations (S.D.) for chest  
through 21 years by per-capita income and age ;

Age	Per-capita								
	Group			Group II			Group III		
	Chest								
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than									
3 months	13	32.1	2.16	37	33.9	3.53	68	33.6	3.70
3 months +	20	37.7	1.91	61	37.2	1.98	102	37.7	2.21
6 months +	23	39.2	2.38	69	38.7	4.35	129	38.5	3.94
9 months +	21	39.6	2.59	59	40.1	3.05	114	40.0	2.40
1 year +	154	42.7	2.86	448	42.4	3.20	754	42.2	2.84
2 years +	131	45.5	2.88	427	44.9	4.27	717	45.0	3.01
3 years +	97	47.3	2.99	408	47.2	3.83	571	46.9	3.58
4 years +	121	49.2	2.87	325	48.8	3.61	542	48.5	3.07
5 years +	106	50.3	3.34	317	50.3	3.87	534	50.3	3.41
6 years +	115	51.9	2.94	364	51.8	2.52	657	51.4	3.87
7 years +	136	53.9	3.16	404	53.6	3.23	621	52.7	6.15
8 years +	118	55.5	3.66	322	55.3	3.09	639	54.5	4.66
9 years +	110	56.5	3.49	346	56.7	3.71	618	56.2	3.95
10 years +	90	59.2	4.98	260	58.5	4.19	624	58.0	4.61
11 years +	67	60.2	4.38	217	59.5	4.24	494	60.5	4.26
12 years +	46	63.7	5.60	199	62.1	8.79	475	62.7	5.60
13 years +	47	67.2	6.16	168	64.7	7.13	385	66.0	7.30
14 years +	45	69.4	6.81	130	68.4	8.27	339	69.3	5.80
15 years +	46	70.9	5.02	127	70.7	6.05	275	71.1	6.16
16 years +	29	71.7	6.54	95	72.6	5.65	293	72.0	6.83
17 years +	36	72.8	4.93	99	73.5	6.10	190	73.9	5.06
18 years +	33	74.9	6.28	82	73.7	6.16	173	73.9	9.07
19 years +	37	74.9	4.99	71	73.6	5.51	144	74.0	7.96
20 years +	24	75.0	6.61	49	73.4	4.50	98	74.6	5.50
21 years +	2	78.0	4.95	3	73.5	3.61	7	80.4	3.58

66

circumference of female infants and girls aged 1  
with actual number of children measured.

income											
Group IV			Group V			Group VI			Group VII		
circumference (cm.)											
No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
46	34.3	3.96	18	33.7	4.40	5	35.1	3.05	6	34.0	4.81
74	37.3	4.42	15	38.0	1.46	10	38.8	2.21	8	37.8	4.50
90	39.2	4.05	20	39.8	2.05	16	39.8	1.08	10	40.4	1.73
76	40.8	2.76	22	40.3	1.45	18	40.0	1.09	6	41.3	3.19
630	42.5	3.82	191	43.1	2.49	132	42.3	6.44	56	44.5	2.34
594	45.2	3.73	158	45.3	3.92	118	45.8	2.59	81	46.0	6.89
467	47.0	4.61	121	47.4	2.36	94	47.4	4.82	85	48.1	2.32
420	48.8	2.51	142	48.6	2.23	94	49.1	2.40	85	49.4	2.23
434	50.1	2.71	169	50.7	2.64	114	50.7	2.51	102	50.8	2.35
529	51.6	3.46	176	51.9	2.90	119	52.0	2.67	117	52.0	5.34
517	53.1	4.26	170	52.5	6.65	108	54.0	3.18	108	54.1	3.14
557	54.6	4.93	175	55.6	3.54	98	54.5	2.82	87	55.6	3.71
538	56.3	4.61	167	56.9	3.03	130	57.2	4.21	91	56.3	7.00
569	58.3	5.32	193	58.4	4.10	105	59.9	4.44	90	59.5	4.70
523	60.8	5.54	190	61.1	4.86	119	61.6	7.34	80	63.1	6.11
496	63.4	7.51	168	63.5	8.61	126	65.2	6.12	100	65.8	8.99
440	67.0	6.69	174	67.9	5.99	117	68.5	6.36	85	70.5	6.48
435	70.5	6.06	184	70.7	7.38	107	71.8	6.83	81	72.5	5.26
381	71.5	6.58	148	72.1	5.63	126	72.0	8.33	121	73.2	6.12
378	73.1	6.43	145	73.2	7.65	111	73.9	6.52	104	75.8	4.77
265	73.4	10.53	157	73.8	8.22	103	74.2	9.23	109	75.3	5.65
214	73.6	10.36	135	74.3	10.25	93	74.1	9.31	116	75.4	5.42
196	73.6	8.79	114	75.2	6.19	82	76.1	5.24	93	75.6	9.20
135	74.0	5.86	49	76.6	6.81	49	77.9	7.29	52	75.5	5.01
15	77.4	5.66	4	77.8	4.19	7	76.4	2.97	7	79.2	4.75



TABLE  
Means and standard deviations (S.D.) for standing  
21 years by per-capita income and age ;

Age	Per-capita								
	Group I			Group II			Group III		
	Standing								
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than									
3 months	10	57.2	4.59	33	55.8	4.83	57	55.9	5.91
3 months +	24	59.6	3.39	83	62.6	4.97	120	62.2	4.55
6 months +	21	65.9	3.43	76	65.9	5.19	110	65.8	4.20
9 months +	29	71.6	5.41	67	69.2	5.64	157	70.7	5.97
1 year +	157	73.4	4.73	513	73.2	4.87	890	73.7	4.92
2 years +	164	81.4	5.10	507	80.7	5.28	845	81.5	5.15
3 years +	190	87.2	6.78	511	86.7	6.24	807	88.0	5.83
4 years +	178	93.6	6.78	547	94.7	6.66	839	94.8	6.39
5 years +	183	101.4	7.37	563	100.5	7.51	853	101.0	8.46
6 years +	209	107.8	7.66	584	107.7	7.07	950	107.5	7.59
7 years +	210	113.1	7.15	569	113.6	6.53	941	113.1	8.33
8 years +	236	116.5	7.17	645	118.5	6.80	997	118.3	8.46
9 years +	192	121.2	7.77	574	122.7	9.07	1049	123.1	8.68
10 years +	250	127.5	9.54	628	127.5	8.20	1031	127.9	9.70
11 years +	231	132.8	7.91	580	132.4	9.17	956	132.6	7.83
12 years +	214	136.0	10.61	607	137.5	8.13	1035	137.9	9.01
13 years +	196	142.3	8.95	539	143.6	8.90	1011	143.6	10.14
14 years +	154	147.2	10.03	567	148.2	10.09	989	149.1	11.59
15 years +	144	152.8	9.16	487	153.5	11.76	1023	154.9	10.93
16 years +	136	156.9	7.60	479	157.2	9.65	959	159.2	8.93
17 years +	124	160.6	6.96	474	160.6	10.80	981	160.0	14.51
18 years +	129	160.8	12.83	439	162.7	6.76	842	162.7	8.84
19 years +	117	162.7	7.17	355	162.9	10.66	732	163.2	8.32
20 years +	89	162.9	7.04	315	163.2	5.89	454	164.3	6.46
21 years +	8	164.5	2.93	22	163.4	6.47	54	164.3	6.08

67

height of male infants and boys aged 1 through  
with actual number of children measured.

income											
Group IV			Group V			Group VI			Group VII		
height (cm.)											
No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No	Mean	S.D.
58	54.4	5.47	19	55.8	5.16	12	54.8	5.19	9	52.7	5.42
102	62.0	4.07	29	62.1	3.35	12	64.4	3.08	9	63.1	3.78
95	67.2	6.14	34	66.0	5.15	24	66.0	3.81	10	68.6	3.41
106	70.8	3.40	25	68.0	3.49	15	70.4	7.24	8	69.3	7.05
707	74.4	5.78	183	74.8	4.45	120	75.3	6.29	69	76.4	4.40
679	81.8	5.27	167	82.8	5.59	111	84.0	5.79	72	85.3	5.47
639	89.0	6.00	223	90.4	5.02	138	91.6	6.35	155	94.4	6.28
687	95.8	6.46	268	98.1	6.35	224	98.4	5.36	156	100.5	9.32
731	102.0	7.96	262	103.6	8.64	167	104.3	6.34	168	106.0	9.68
746	108.5	6.62	252	109.0	5.50	198	111.2	6.32	169	112.6	5.98
718	114.2	6.01	240	114.3	9.24	193	115.8	7.47	158	118.4	11.56
746	120.0	6.90	256	120.6	7.17	171	120.6	6.57	200	123.7	6.36
813	123.9	9.92	260	125.6	6.38	189	125.7	6.72	157	128.7	5.85
816	128.8	9.33	301	129.0	11.01	202	130.2	9.50	184	131.4	9.45
850	133.2	12.46	295	134.9	6.87	202	136.6	7.67	167	137.3	6.76
940	138.3	10.78	275	140.3	7.92	188	140.3	7.73	194	142.6	8.65
903	144.6	9.43	303	146.2	8.75	217	147.4	8.70	207	150.3	9.39
858	150.4	10.23	268	150.5	10.08	190	152.3	11.09	207	156.6	9.34
898	155.3	11.17	334	156.8	12.85	202	158.1	8.52	199	161.4	8.70
836	159.7	9.02	308	161.5	9.33	212	161.5	10.58	197	162.9	7.55
840	162.1	11.09	232	163.5	6.40	162	164.1	10.50	177	164.0	8.69
673	163.0	11.49	230	164.6	10.06	172	165.7	9.45	146	165.8	5.94
671	163.6	10.24	196	164.9	5.33	151	165.8	9.57	136	165.6	10.25
383	163.7	8.73	122	165.4	5.96	65	165.7	8.96	67	166.6	6.21
43	163.9	6.10	20	166.1	5.27	4	164.5	1.63	11	168.1	5.29



TABLE

Means and standard deviations (S.D.) for standing  
21 years by per-capita income and age ;

Age	Per-capita								
	Group I			Group II			Group III		
	Standing								
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than									
3 months	13	54.1	4.07	37	54.7	2.43	68	53.8	6.24
3 months +	20	60.1	2.74	61	59.5	3.44	102	61.1	5.26
6 months +	23	64.5	6.65	69	64.0	3.09	129	63.5	4.20
9 months +	21	67.2	5.12	59	66.8	3.60	114	66.6	4.80
1 year +	154	73.2	6.30	448	72.0	5.14	754	71.9	5.05
2 years +	135	79.6	5.16	432	79.4	5.80	719	79.3	5.56
3 years +	157	86.0	6.10	537	86.5	5.83	772	86.4	6.35
4 years +	160	93.1	6.54	448	93.2	6.61	744	93.4	5.94
5 years +	167	100.3	7.69	447	99.9	7.86	734	100.8	6.62
6 years +	171	106.0	7.46	490	106.3	7.17	868	106.5	8.44
7 years +	184	111.3	6.65	510	111.6	8.78	838	112.5	7.85
8 years +	175	116.8	7.59	443	117.5	6.79	841	117.6	6.89
9 years +	152	121.1	6.72	464	121.5	8.19	815	122.0	7.45
10 years +	138	125.5	11.79	384	126.5	8.44	849	127.3	7.12
11 years +	117	129.5	7.19	343	130.2	9.56	712	132.8	7.13
12 years +	97	134.1	12.89	345	136.1	11.30	743	137.2	9.86
13 years +	93	142.1	8.09	284	140.7	7.30	666	142.2	8.25
14 years +	117	145.0	12.35	259	144.9	10.64	569	146.1	8.90
15 years +	71	145.4	9.42	222	147.7	6.29	494	148.2	7.87
16 years +	50	145.9	6.97	189	148.6	5.69	496	150.1	5.88
17 years +	50	148.1	7.55	178	150.4	6.26	374	151.2	5.75
18 years +	43	148.7	6.67	121	150.5	5.57	281	151.4	5.39
19 years +	48	149.0	5.15	107	150.5	5.64	248	151.7	5.72
20 years +	29	149.4	5.51	77	150.6	5.40	159	151.7	6.33
21 years +	2	148.0	2.12	6	150.0	7.82	16	152.1	5.48

68

height of female infants and girls aged 1 through  
with actual number of children measured.

income											
Group IV			Group V			Group VI			Group VII		
height (cm.)											
No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
46	55.0	5.15	18	54.6	4.94	5	54.5	4.53	6	53.5	6.29
74	59.4	5.34	15	61.5	4.71	10	60.0	3.39	8	62.4	4.48
90	64.2	4.24	20	65.1	4.09	16	65.7	4.28	10	66.7	3.94
76	67.1	4.52	22	65.6	3.31	18	67.6	3.20	6	67.8	2.81
630	72.6	4.72	194	73.4	5.12	132	73.7	5.33	56	75.6	5.35
599	80.7	5.31	162	82.0	5.16	122	82.8	5.41	82	82.8	6.06
644	87.7	6.71	167	89.3	4.75	133	90.3	5.81	107	91.3	5.88
618	95.0	6.25	224	95.9	6.03	171	97.7	5.65	151	98.9	5.05
632	101.3	7.72	246	102.9	6.16	187	104.5	5.99	192	106.6	5.83
761	107.2	9.18	279	108.7	6.88	190	111.3	8.45	199	112.0	7.00
740	112.8	8.92	269	114.6	6.39	167	114.9	6.90	165	116.0	6.84
779	118.3	7.94	266	119.8	6.74	155	119.0	6.74	147	123.3	6.68
765	123.4	7.03	251	124.7	6.49	208	125.9	6.97	169	126.4	7.62
811	128.5	7.63	297	129.9	7.25	201	131.6	7.60	170	132.3	7.60
834	133.7	8.76	306	135.2	7.66	235	135.8	12.79	188	139.4	8.52
837	139.5	9.17	303	140.4	11.16	233	142.6	7.96	212	145.5	7.15
828	143.3	10.23	318	145.5	9.59	218	146.1	6.85	220	148.8	7.46
751	147.4	10.27	326	148.3	9.81	237	149.0	11.44	211	151.4	5.97
716	149.3	8.02	304	150.7	7.63	262	151.7	5.60	266	153.0	10.49
678	150.6	6.39	309	151.8	5.49	255	152.1	5.70	291	153.3	10.20
525	150.8	10.29	295	151.8	5.18	209	152.4	8.32	265	153.3	6.17
403	151.4	5.77	250	152.7	5.91	182	152.9	6.06	268	153.4	5.51
357	151.7	5.87	195	152.9	5.30	179	152.9	5.44	216	153.5	5.61
228	151.9	5.57	103	153.0	5.88	108	153.7	5.66	124	153.9	5.08
22	153.4	5.53	10	152.5	8.27	13	153.3	4.02	17	154.5	4.56

CH130

03037

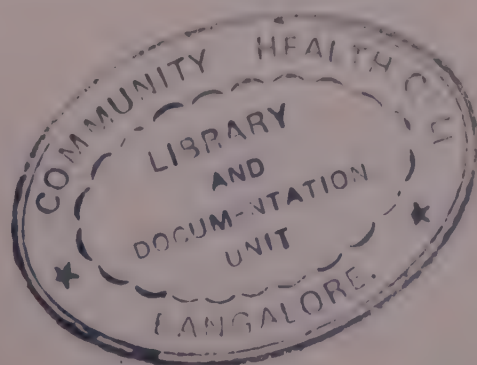




TABLE  
Means and standard deviations (S.D.) for sitting  
21 years by per-capita income and age ;

Age	Per-capita								
	Group I			Group II			Group III		
	Sitting								
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than									
3 months	10	36.2	2.63	33	35.7	3.32	58	35.8	4.02
3 months +	24	38.3	2.81	83	39.8	2.27	102	39.5	2.52
6 months +	21	41.3	1.68	76	41.6	2.74	95	43.0	2.00
9 months +	29	43.6	3.18	67	43.3	2.27	106	44.4	3.49
1 year +	157	45.2	2.52	513	44.8	2.67	707	45.2	2.76
2 years +	164	48.2	3.27	507	48.1	3.02	679	48.6	3.00
3 years +	190	50.2	3.27	511	50.6	2.97	639	51.3	3.11
4 years +	173	52.9	3.35	547	53.5	3.18	687	53.9	3.70
5 years +	183	55.9	3.70	563	56.1	3.30	731	56.5	3.36
6 years +	209	58.6	3.88	581	58.8	3.39	745	59.0	3.43
7 years +	210	60.7	3.53	569	61.1	3.26	718	61.3	3.78
8 years +	236	62.1	3.75	645	63.1	3.32	746	63.6	3.52
9 years +	192	63.8	3.93	574	65.0	3.88	813	65.4	3.29
10 years +	250	66.3	3.71	628	66.7	3.53	816	67.2	3.34
11 years +	231	68.4	4.02	580	69.0	4.12	850	69.0	3.36
12 years +	214	70.2	4.28	607	70.8	4.03	940	71.1	4.15
13 years +	196	72.7	4.63	539	73.3	4.57	903	73.7	4.50
14 years +	154	74.7	5.94	567	75.7	5.21	858	76.3	5.02
15 years +	144	78.2	5.13	487	73.6	5.13	898	79.6	5.27
16 years +	136	80.3	4.33	479	80.5	4.78	836	81.8	4.69
17 years +	124	82.3	4.72	474	82.8	4.25	840	83.3	5.33
18 years +	129	82.5	4.97	439	83.6	4.40	763	84.0	3.85
19 years +	117	83.1	3.39	355	83.7	3.64	671	84.6	3.33
20 years +	89	83.3	3.77	315	84.3	3.36	383	85.0	3.38
21 years +	8	84.1	3.42	22	84.8	3.92	43	84.6	3.32

height of male infants and boys aged 1 through  
with actual number of children measured.

income											
Group IV			Group V			Group VI			Group VII		
height (cm.)											
No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
57	34.9	3.63	19	35.6	3.32	12	34.7	3.48	9	34.3	3.41
120	40.1	2.81	29	39.8	2.25	12	42.0	2.72	9	41.4	3.37
110	43.7	4.29	34	41.8	2.35	24	44.0	1.96	10	43.7	2.04
157	43.8	4.52	25	43.3	3.02	15	44.4	4.33	8	43.8	3.33
890	45.7	3.00	183	46.1	2.82	120	46.2	3.16	69	46.3	3.29
845	48.9	3.10	167	49.7	3.63	111	49.6	3.29	72	50.7	2.80
807	51.9	3.10	223	52.5	3.33	138	52.9	2.98	155	54.2	3.00
839	54.5	3.18	268	55.6	2.85	224	55.7	2.51	156	56.9	3.10
853	57.1	2.94	262	57.9	3.18	167	57.8	2.92	168	59.0	2.64
950	59.4	3.12	252	59.7	2.82	198	60.7	2.95	169	61.1	3.06
941	61.8	3.11	240	62.1	3.94	193	62.6	3.49	158	63.8	3.06
997	64.0	4.07	256	64.6	3.40	171	64.6	3.32	200	65.5	3.29
1049	65.8	3.54	260	66.3	3.40	189	66.6	3.17	157	67.6	3.03
1031	67.7	3.45	301	68.1	3.45	202	68.4	3.42	184	69.3	3.60
955	69.7	4.31	295	69.9	3.27	202	70.8	3.86	167	70.9	3.46
1035	71.6	4.21	275	72.4	4.21	188	72.3	4.11	194	73.0	4.02
1011	74.3	4.75	303	74.8	4.52	217	75.1	4.74	207	76.8	5.11
989	77.0	5.61	268	77.0	5.25	190	77.6	7.28	207	79.9	5.48
1023	79.6	5.03	334	80.7	4.78	202	81.0	4.92	199	82.4	4.78
959	82.0	5.27	308	83.1	4.61	212	83.4	4.52	197	83.9	4.32
981	84.1	3.91	232	84.5	4.03	162	84.8	7.49	177	85.7	4.61
842	84.6	4.05	230	85.6	3.67	172	86.7	3.64	146	85.8	3.31
732	85.5	3.25	196	85.6	2.96	151	86.0	3.15	130	86.0	3.58
454	85.6	3.50	122	85.6	4.28	65	86.7	3.30	67	86.4	3.45
54	85.8	3.32	20	85.5	3.49	4	85.0	1.73	11	85.6	4.23



**TABLE**

**Means and standard deviations (S.D.) for sitting  
21 years by per-capita income and age ;**

Age	Per-capita								
	Group I			Group II			Group III		
	Sitting								
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than									
3 months	13	34.8	2.50	37	34.6	3.41	68	34.6	4.03
3 months +	20	38.3	1.64	61	38.1	2.06	102	38.6	2.23
6 months +	23	40.3	2.84	69	40.3	1.79	129	40.2	2.24
9 months +	21	41.4	2.03	59	41.8	2.10	114	41.7	2.69
1 year +	154	44.3	2.96	448	43.9	2.52	754	43.9	2.77
2 years +	135	47.1	2.69	432	47.1	2.88	719	47.0	2.96
3 years +	157	49.4	3.23	537	49.9	2.94	772	49.8	3.18
4 years +	160	52.6	3.09	448	52.6	3.28	744	52.7	2.77
5 years +	167	55.2	3.95	447	55.4	3.55	734	55.8	3.32
6 years +	171	57.1	3.80	490	57.7	3.09	868	58.2	3.25
7 years +	184	59.6	3.36	510	59.9	3.55	838	60.7	3.40
8 years +	175	61.7	3.75	443	62.4	3.53	841	62.7	3.39
9 years +	152	63.4	3.66	464	64.1	3.48	815	64.6	3.38
10 years +	138	65.4	4.26	384	66.1	3.61	849	66.5	3.75
11 years +	117	67.0	3.89	343	67.8	4.17	712	69.0	3.88
12 years +	97	69.1	4.63	345	70.3	4.30	743	71.2	4.19
13 years +	93	72.9	5.00	284	72.5	3.82	666	73.6	4.07
14 years +	117	73.4	5.11	259	75.1	3.70	569	75.7	3.96
15 years +	71	74.2	3.76	222	76.0	3.61	494	77.0	3.84
16 years +	50	74.6	3.63	189	76.6	3.71	496	77.9	3.47
17 years +	50	75.8	4.50	178	77.7	3.72	374	78.9	3.50
18 years +	43	76.2	4.78	121	77.8	3.17	281	78.2	3.29
19 years +	48	76.6	3.45	107	77.8	3.63	248	78.2	3.42
20 years +	29	77.4	3.42	77	77.9	3.48	159	78.8	3.49
21 years +	2	77.0	2.12	6	76.5	6.20	16	80.1	2.99

70

height of female infants and girls aged 1 through  
with actual number of children measured.

income

Group IV			Group V			Group VI			Group VII		
height (cm.)											
No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
46	35.0	2.31	18	34.2	3.94	5	34.9	3.21	6	35.3	4.62
74	38.1	2.23	15	38.7	1.97	10	39.4	2.56	8	39.8	3.96
90	40.4	4.17	20	41.0	2.39	16	42.8	2.93	10	42.7	2.17
76	42.1	2.59	22	41.5	1.93	18	43.0	2.00	6	42.9	2.48
630	44.3	2.94	194	45.0	2.91	132	45.3	2.78	56	46.1	3.41
599	48.0	3.02	162	48.8	2.69	122	49.0	2.81	82	49.3	3.40
644	50.7	3.44	167	51.4	2.58	133	52.1	3.28	107	52.4	2.80
618	53.7	3.16	224	54.2	3.48	171	54.7	2.99	151	55.0	2.69
632	56.1	3.26	246	56.7	3.14	187	57.4	3.15	192	58.5	3.02
761	58.6	3.19	279	59.4	3.61	190	60.1	3.16	199	60.2	5.30
740	61.0	3.21	269	61.7	3.49	167	61.5	3.34	165	62.0	3.47
779	63.1	3.68	266	63.7	3.50	155	63.6	3.06	147	64.7	3.44
765	65.2	3.33	251	65.6	3.29	208	66.2	3.62	169	66.3	3.61
811	67.1	4.53	297	67.9	3.55	201	68.5	3.93	170	68.8	4.25
834	69.7	3.99	306	70.1	3.93	235	70.8	4.16	188	71.8	4.38
837	72.3	4.32	303	72.9	4.25	233	73.9	4.34	212	75.1	4.05
828	74.5	4.01	318	75.6	4.35	218	75.7	3.90	220	76.7	4.00
751	76.9	3.61	326	77.5	3.55	237	78.0	3.78	211	78.8	3.70
716	77.9	3.40	304	78.6	3.28	262	78.9	3.33	266	80.1	3.03
678	78.7	3.21	309	79.3	3.10	255	79.8	3.17	291	80.7	2.99
525	79.0	3.31	295	79.5	3.03	209	80.1	2.91	265	80.4	3.26
403	79.1	3.18	250	80.0	3.21	182	79.5	3.39	268	80.8	3.24
357	79.2	3.41	195	79.4	3.27	179	79.6	3.12	216	80.6	3.24
228	79.4	2.92	103	79.8	3.47	108	80.7	3.67	124	80.5	2.70
22	80.7	3.35	10	80.2	3.06	13	80.7	2.17	17	80.4	1.36



TABLE

Means and standard deviations (S.D.) for weight  
21 years by per-capita income and age ;

Age	Per-capita								
	Group I			Group II			Group III		
	Weight								
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than									
3 months	10	4.9	1.24	33	5.3	0.51	57	5.4	1.63
3 months +	24	5.7	0.93	83	6.2	0.77	120	5.9	2.03
6 months +	21	6.5	0.95	76	6.6	0.96	110	6.7	1.15
9 months +	29	7.6	1.47	67	7.4	0.97	157	6.9	1.08
1 year +	157	8.2	1.36	513	8.0	1.79	890	8.2	1.41
2 years +	164	9.8	1.54	507	9.8	1.65	845	10.0	1.73
3 years +	190	11.2	2.08	511	11.0	2.01	807	11.6	2.00
4 years +	178	12.9	2.21	547	13.0	1.82	839	13.2	4.78
5 years +	183	14.5	2.24	563	14.3	2.08	853	14.4	2.19
6 years +	209	15.8	2.67	584	15.9	2.71	950	15.9	2.68
7 years +	210	17.7	2.55	569	17.4	2.99	941	17.5	2.87
8 years +	236	18.8	3.19	645	19.2	3.24	997	19.2	3.50
9 years +	192	20.5	3.73	574	20.8	3.64	1049	21.0	3.40
10 years +	250	23.0	4.30	628	22.5	3.90	1031	22.9	3.89
11 years +	231	25.0	4.64	580	25.2	4.59	956	25.2	4.35
12 years +	214	27.3	4.92	607	27.5	5.32	1035	27.8	5.22
13 years +	196	30.2	6.42	539	31.0	6.34	1011	31.2	6.40
14 years +	154	33.8	7.99	567	34.0	7.53	989	34.5	7.81
15 years +	144	37.9	8.15	487	37.6	8.29	1023	38.8	8.04
16 years +	136	40.5	7.97	479	40.4	8.26	959	42.6	7.51
17 years +	124	43.6	7.65	474	44.1	7.35	981	44.5	7.74
18 years +	129	44.6	8.53	439	46.2	6.51	842	46.4	6.96
19 years +	117	46.9	6.20	355	47.0	6.83	732	47.4	6.53
20 years +	89	47.3	6.34	315	47.6	7.06	454	48.8	6.65
21 years +	8	50.1	5.36	22	48.5	6.91	54	49.4	6.11

of male infants and boys aged 1 through  
with actual number of children measured.

neome

Group IV			Group V			Group VI			Group VII		
(kg.)											
No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
58	4.1	1.39	19	4.3	1.32	12	4.1	1.90	9	3.6	1.52
102	6.0	1.18	29	6.0	1.08	12	6.9	1.25	9	5.9	1.41
95	7.0	1.77	34	6.5	1.23	24	7.1	0.93	10	7.8	0.80
106	8.0	1.72	25	7.7	1.45	15	7.0	2.05	8	8.4	1.86
707	8.4	1.40	183	8.9	1.37	120	9.1	1.76	69	9.2	1.51
679	10.2	1.62	167	10.7	2.61	111	10.9	1.83	72	11.5	1.85
639	11.9	1.88	223	12.2	1.44	138	12.6	1.76	155	13.3	2.78
687	13.3	1.88	268	13.9	1.93	224	14.1	1.83	156	14.8	2.24
731	14.7	2.18	262	15.2	2.25	167	15.5	2.10	168	16.2	2.30
746	16.2	2.53	252	16.6	2.27	198	17.3	2.66	169	18.0	2.52
718	18.0	2.67	240	18.2	3.35	193	19.0	2.76	158	20.3	3.28
746	19.9	3.30	256	20.4	3.42	171	20.4	3.05	200	22.0	3.64
314	21.4	3.62	260	22.2	3.77	189	22.5	3.43	157	24.3	3.45
316	23.5	4.24	301	24.0	4.57	202	24.9	4.27	184	25.7	4.36
350	26.3	5.38	295	26.4	4.74	202	27.7	5.08	167	28.8	5.69
340	28.7	5.58	275	29.6	5.45	188	29.4	5.52	194	31.8	6.45
303	32.3	6.53	303	32.9	6.61	217	34.3	7.04	207	37.2	8.36
353	35.7	7.26	268	36.2	7.38	190	39.2	8.28	207	41.4	8.46
398	39.2	8.12	334	41.4	7.71	202	41.5	8.62	199	45.2	8.18
346	43.0	7.47	308	44.8	7.69	212	45.7	7.51	197	47.7	8.38
340	46.2	7.36	232	46.6	7.98	162	48.3	7.47	177	50.6	8.50
733	47.3	7.69	230	48.7	7.07	172	49.6	5.90	146	51.9	6.76
671	48.1	6.91	196	49.4	6.09	151	49.5	8.55	130	51.4	7.80
382	49.6	6.46	122	50.2	5.99	65	52.2	7.14	67	51.6	7.13
43	49.8	5.08	20	50.3	5.59	4	49.0	4.13	11	50.7	7.32



TABLE

Means and standard deviations (S.D.) for weight  
21 years by per-capita income and age ;

Age	Per-capita								
	Group I			Group II			Group III		
	Weight								
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
Less than									
3 months	13	4.0	1.22	37	4.0	1.41	68	3.9	1.34
3 months+	20	5.3	1.82	61	5.3	0.80	102	5.3	1.00
6 months+	23	5.7	1.07	69	5.9	0.86	129	5.9	0.95
9 months+	21	6.2	0.79	59	6.3	1.16	114	6.4	1.17
1 year +	154	7.7	1.58	448	7.5	1.24	754	7.5	1.33
2 years +	135	9.3	1.43	432	9.3	1.61	719	9.2	1.74
3 years+	157	11.0	1.85	537	10.8	1.88	772	11.0	1.93
4 years +	160	12.4	2.00	448	12.4	2.10	744	12.4	2.03
5 years +	167	14.0	2.47	447	13.9	2.14	734	14.2	2.18
6 years+	171	15.4	2.17	490	15.2	2.11	868	15.5	2.48
7 years +	184	17.1	2.82	510	17.0	3.09	838	17.2	2.87
8 years +	175	18.8	3.19	443	18.9	3.10	841	18.8	3.00
9 years +	152	20.2	3.53	464	20.3	3.70	815	20.7	3.22
10 years+	138	22.4	5.40	384	22.3	4.40	849	22.6	4.33
11 years +	117	24.0	4.60	343	23.8	4.75	712	25.3	4.80
12 years +	97	26.5	6.74	345	26.9	6.37	743	28.0	6.09
13 years +	93	31.3	6.95	284	29.8	6.35	666	31.7	6.99
14 years +	117	34.5	7.93	259	33.6	7.23	569	34.7	7.13
15 years+	71	34.9	6.40	222	36.5	6.85	494	36.8	7.39
16 years +	50	37.8	5.94	189	38.1	6.26	496	39.0	6.44
17 years +	50	39.1	7.40	178	40.0	7.02	374	40.4	6.21
18 years +	43	39.8	8.06	121	40.1	7.14	281	40.4	7.86
19 years +	48	39.6	4.59	107	42.2	6.08	248	40.4	7.43
20 years +	29	42.8	5.18	77	42.5	7.00	159	40.6	5.88
21 years +	2	39.2	0.64	6	43.1	5.70	16	43.1	5.59

72

of female infants and girls aged 1 through  
with actual number of children measured.

income											
Group IV			Group V			Group VI			Group VII		
(kg.)											
No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
46	4.5	0.60	18	4.0	0.58	5	4.4	0.64	6	4.3	0.91
74	5.4	1.09	15	5.6	0.73	10	5.8	0.77	8	5.9	1.61
90	6.1	1.10	20	6.4	1.15	16	6.4	0.68	10	6.9	1.13
76	6.4	1.13	22	6.7	1.03	18	7.4	0.52	6	7.6	1.85
630	7.9	2.17	194	8.1	1.49	132	8.3	1.76	56	8.8	1.50
599	9.6	1.66	162	9.9	1.50	122	10.3	2.03	82	10.3	1.93
644	11.4	1.89	167	11.8	1.55	133	11.9	2.10	107	12.3	2.45
618	13.0	2.33	224	13.1	2.20	171	13.9	2.02	151	14.2	1.97
632	14.3	2.48	246	15.0	1.94	187	15.5	2.26	192	16.0	2.23
761	16.0	2.59	279	16.6	2.63	190	18.2	1.80	199	17.9	3.40
740	17.4	2.75	269	18.2	2.69	167	18.7	3.01	165	19.2	3.00
779	19.3	3.30	266	20.2	3.29	155	19.8	2.94	147	22.0	3.41
765	21.2	3.63	251	22.0	3.45	208	22.8	4.30	169	23.5	5.21
811	23.6	4.49	297	24.4	4.36	201	25.6	4.54	170	27.4	6.20
834	26.3	5.04	306	27.4	5.69	235	28.1	5.99	188	30.7	6.78
837	29.8	6.10	303	31.0	6.23	233	32.4	6.20	212	34.8	7.09
828	32.8	6.95	318	35.0	7.00	218	35.6	6.33	220	38.9	7.58
751	36.8	6.99	326	37.9	6.13	237	39.6	7.35	211	40.8	5.91
716	38.6	6.75	304	40.1	5.76	262	40.9	6.91	266	43.5	6.91
678	41.4	6.67	309	41.6	7.06	255	43.0	5.59	291	44.6	6.50
525	41.8	6.83	295	42.9	5.75	209	42.9	7.01	265	44.2	6.83
403	41.5	7.23	250	43.4	6.94	182	42.7	6.13	268	44.6	6.11
357	41.2	6.82	195	43.2	5.69	179	43.3	7.10	216	44.5	6.48
228	43.3	6.39	103	44.3	9.06	108	44.3	8.51	124	44.9	6.88
22	45.0	5.84	10	45.1	6.05	13	44.3	5.76	17	45.6	3.71



TABLE 73

**Comparison of mean standing heights of children aged 5 through 17 years from United States of America, Britain, India (Pooled) and India (socio-economic class I) by sex and single year of age.**

Age	Boys			Girls		
	Country			Country		
	United States of America	Britain	India (pooled)	India (socio-economic class I)	United States of America	Britain
	Mean	S.D.	Mean	S.D.	Mean	S.D.
5 years +	110.7	4.1	109.3	4.90	102.1	8.08
6 years +	117.7	4.4	115.4	6.15	108.5	7.15
7 years +	123.8	4.6	122.1	5.85	113.9	8.67
8 years +	129.9	4.9	125.2	5.12	119.3	7.34
9 years +	135.4	5.1	130.5	5.92	123.7	9.28
10 years +	141.0	5.5	136.0	6.97	128.4	9.99
11 years +	145.9	6.1	141.3	6.66	133.4	9.73
12 years +	151.4	6.8	148.1	7.94	138.3	10.14
13 years +	157.5	7.8	152.5	8.81	144.6	10.76
14 years +	164.8	8.3	159.4	9.09	150.1	10.80
15 years +	171.1	7.3	167.2	8.70	155.5	10.91
16 years +	175.2	6.3	173.5	8.31	159.5	9.73
17 years +	176.6	5.8	173.7	6.88	161.4	10.45
	Mean	S.D.	Mean	S.D.	Mean	S.D.
5 years +	110.4	4.99	110.6	4.4	110.4	4.99
6 years +	115.6	5.97	117.6	4.7	115.6	5.97
7 years +	121.1	5.18	123.8	5.0	121.1	5.18
8 years +	125.4	6.30	129.8	5.3	125.4	6.30
9 years +	130.2	6.13	135.3	5.6	130.2	6.13
10 years +	135.4	7.18	141.0	5.9	135.4	7.18
11 years +	141.4	7.11	147.7	6.5	141.4	7.11
12 years +	148.4	7.18	154.2	6.8	148.4	7.18
13 years +	155.1	7.43	159.5	6.3	155.1	7.43
14 years +	157.1	7.47	162.9	5.8	157.1	7.47
15 years +	162.1	5.30	164.8	5.5	162.1	5.30
16 years +	162.8	5.33	165.5	5.2	162.8	5.33
17 years +	164.3	6.66	165.5	5.1	164.3	6.66
	Mean	S.D.	Mean	S.D.	Mean	S.D.
5 years +	106.6	7.35	106.6	7.35	106.6	7.35
6 years +	112.6	8.55	112.6	8.55	112.6	8.55
7 years +	116.3	8.49	116.3	8.49	116.3	8.49
8 years +	122.8	7.71	122.8	7.71	122.8	7.71
9 years +	127.1	7.53	127.1	7.53	127.1	7.53
10 years +	132.5	8.02	132.5	8.02	132.5	8.02
11 years +	140.6	9.49	140.6	9.49	140.6	9.49
12 years +	145.5	10.24	145.5	10.24	145.5	10.24
13 years +	149.0	9.23	149.0	9.23	149.0	9.23
14 years +	152.4	9.72	152.4	9.72	152.4	9.72
15 years +	153.1	8.31	153.1	8.31	153.1	8.31
16 years +	153.7	7.11	153.7	7.11	153.7	7.11
17 years +	154.4	7.51	154.4	7.51	154.4	7.51





TABLE 75

Comparison of mean ages at attainment of menarche in selected countries

Country	Number	Age in years	Country	Number	Age in years
Scotland	10,219	15.037	Japan	1,172	14.2
Russia	10,000	15.242	(another		
Italy	31,659	14.968	investigator)		
Norway	206	14.57	Arctic Zone	624	14.6
Holland	1,800	13.75	Temperate Zone	500	12.6
Germany	11,550	15.7	(Europe)		
Germany :	1,742	14.4	England	12,247	15.0
(another			France	7,887	14.6
investigator)			Spain	1,025	18.2
Austria	1,763	13 to 13.5	Temperate Zone	10,531	13.9
Poland	3,667	15.2	(North America)		
India	489	13.63	South Asia	1,140	12.9
Brazil	2,707	14.17	(18-23 North)		
Korea	424	15.0	True Tropical	1,593	15.8
China	2,924	14.073	Zone		
Japan	6,354	14.3	India		
			(Present Study)	24,071	13.8

TABLE 76

Means and standard deviations (S.D.) for bicristal diameter of infants and children aged 1 through 21 years by sex and verified age ; with actual number of children measured.

Age	Sex					
	Boys			Girls		
	Bicristal diameter (cm.)					
	No.	Mean	S.D.	No.	Mean	S.D.
Less than						
3 months	93	9.9	1.21	78	9.5	2.38
3 months+	210	10.5	1.63	104	10.5	2.60
6 months+	220	11.1	1.94	123	10.5	1.01
9 months+	213	11.4	2.18	105	10.9	1.83
1 year +	1160	12.3	1.30	916	11.8	1.31
2 years+	1061	13.5	1.23	826	13.2	1.33
3 years+	1121	14.7	1.30	886	14.3	1.25
4 years+	1140	15.7	1.31	909	15.3	1.28
5 years+	1141	16.5	1.35	839	16.2	1.27
6 years+	1051	17.1	1.40	969	17.0	2.97
7 years+	957	17.9	1.34	927	17.7	1.47
8 years+	1003	18.5	1.42	837	18.4	1.76
9 years+	924	19.0	1.60	817	19.1	1.64
10 years+	960	19.7	1.53	816	20.0	3.76
11 years+	1011	20.5	1.56	781	20.7	2.04
12 years+	990	21.0	1.72	706	22.0	2.30
13 years+	930	22.1	2.02	702	22.9	2.64
14 years+	935	23.0	2.06	622	24.1	2.17
15 years+	904	24.0	2.09	701	24.7	2.06
16 years+	918	24.8	1.85	625	24.8	1.77
17 years+	785	25.3	1.80	574	25.3	1.93
18 years+	722	25.5	1.68	497	25.4	1.90
19 years+	576	25.5	1.82	356	25.3	1.90
20 years+	369	25.4	1.53	267	25.0	1.85
21 years+	41	25.7	3.45	29	25.6	1.41



TABLE 77

Means and standard deviations (S.D.) for head circumference of infants and children aged 1 through 21 years by sex and verified age ; with actual number of children measured.

Age	Sex					
	Boys			Girls		
	Head circumference (cm.)					
	No.	Mean	S.D.	No.	Mean	S.D.
Less than 3 months	92	37.9	3.24	71	35.7	3.72
3 months +	209	40.7	2.57	101	39.6	2.46
6 months +	220	42.6	4.08	123	41.3	2.10
9 months +	212	43.3	2.63	103	42.0	1.68
1 year +	1159	44.7	3.21	911	43.8	1.80
2 years +	1051	46.1	3.23	801	45.1	1.75
3 years +	789	47.4	2.23	611	46.2	1.69
4 years +	704	48.3	1.89	602	47.1	1.78
5 years +	728	48.7	1.77	574	47.9	1.72
6 years +	676	49.0	1.86	645	48.3	1.63
7 years +	611	49.7	1.94	648	48.8	2.19
8 years +	653	49.9	1.74	571	49.2	1.72
9 years +	603	50.2	1.71	568	49.9	1.64
10 years +	669	50.6	1.82	577	50.2	1.85
11 years +	659	51.0	1.69	516	50.8	1.90
12 years +	660	51.3	1.66	472	51.3	1.76
13 years +	582	51.8	1.70	450	51.7	1.95
14 years +	567	52.2	1.92	374	52.1	1.77
15 years +	537	52.7	1.88	380	52.5	1.81
16 years +	537	53.5	1.91	307	52.3	1.70
17 years +	456	53.6	1.86	268	52.5	1.83
18 years +	399	53.9	1.99	237	52.4	1.73
19 years +	334	53.8	1.73	150	52.5	1.93
20 years +	214	53.7	1.76	136	52.5	1.44
21 years +	32	53.1	3.76	14	52.7	10.4

TABLE 78

Means and standard deviations (S.D.) for chest circumference of infants and children aged 1 through 21 years by sex and verified age ; with actual number of children measured.

Age	Sex					
	Boys			Girls		
	Chest circumference (cm.)					
	No.	Mean	S.D.	No.	Mean	S.D.
Less than						
3 months	93	37.3	3.03	76	35.1	7.39
3 months +	210	39.9	2.59	103	38.3	4.40
6 months +	221	41.6	5.66	123	39.8	2.30
9 months +	213	42.1	2.61	105	41.1	4.40
1 year +	1150	43.6	3.67	913	42.5	3.86
2 years +	1054	45.9	5.19	816	45.1	4.19
3 years +	902	48.3	3.91	720	47.0	4.21
4 years +	846	49.3	5.88	684	48.6	3.75
5 years +	857	51.2	4.31	632	50.1	4.05
6 years +	768	52.3	4.21	735	51.4	3.91
7 years +	694	53.6	5.99	726	52.6	5.43
8 years +	728	55.4	6.60	642	54.9	3.47
9 years +	663	57.1	4.84	623	56.4	4.31
10 years +	738	59.1	5.70	576	58.3	4.98
11 years +	751	60.7	6.24	512	60.6	5.20
12 years +	707	62.9	5.87	448	64.0	7.23
13 years +	617	65.6	6.75	412	66.8	6.37
14 years +	601	68.2	5.94	349	71.0	7.08
15 years +	556	71.0	8.09	381	72.7	6.27
16 years +	571	74.0	8.25	309	73.2	5.68
17 years +	500	75.5	8.30	268	74.3	5.89
18 years +	446	77.1	6.56	251	74.5	6.07
19 years +	372	78.0	6.97	172	74.4	9.92
20 years +	236	78.3	4.34	148	74.7	5.50
21 years +	33	77.2	6.38	16	76.0	4.91

TABLE 79

Means and standard deviations (S.D.) for standing height of infants and children aged 1 through 21 years by sex and verified age ; with actual number of children measured.

Age	Sex					
	Boys			Girls		
	Standing height (c.n.)					
	No.	Mean	S.D.	No.	Mean	S.D.
Less than						
3 months	93	60.2	5.15	78	57.4	4.65
3 months +	210	63.3	4.15	104	63.5	5.06
6 months +	220	67.2	4.55	123	64.3	4.28
9 months +	213	68.8	4.45	105	67.9	4.85
1 year +	1160	74.2	5.07	916	73.2	5.60
2 years +	1061	82.0	5.45	826	80.2	5.89
3 years +	1121	89.0	6.40	886	87.0	6.24
4 years +	1140	96.0	6.98	909	94.7	6.42
5 years +	1143	102.2	7.11	839	101.5	6.73
6 years +	1051	108.1	7.28	969	107.5	7.31
7 years +	957	114.3	6.79	927	112.7	8.46
8 years +	1004	119.3	7.00	837	118.2	7.37
9 years +	924	123.3	7.70	817	123.0	7.20
10 years +	961	128.6	8.01	816	128.1	8.16
11 years +	1012	133.5	8.68	781	133.4	8.35
12 years +	990	138.3	8.33	706	139.7	8.77
13 years +	930	144.6	9.27	702	143.8	8.27
14 years +	941	150.2	11.49	622	147.8	6.99
15 years +	904	156.5	9.17	702	150.1	6.81
16 years +	918	160.1	9.33	625	150.7	7.06
17 years +	785	162.6	8.20	575	152.0	5.86
18 years +	724	163.8	8.02	497	152.1	5.92
19 years +	576	164.0	8.16	431	151.3	5.73
20 years +	369	164.2	7.96	296	152.3	5.71
21 years +	41	165.5	5.86	29	152.9	4.79



TABLE 80

Means and standard deviations (S.D.) for sitting height of infants and children aged 1 through 21 years by sex and verified age ; with actual number of children measured.

Age	Sex					
	Boys			Girls		
	Sitting height (cm.)					
	No.	Mean	S.D.	No.	Mean	S.D.
Less than						
3 months	93	38.5	3.73	78	35.8	2.33
3 months +	210	40.5	2.93	104	39.7	6.79
6 months +	220	42.4	5.35	123	40.6	2.38
9 months +	213	43.3	2.72	105	42.3	4.15
1 year +	1160	45.6	2.90	916	44.5	2.90
2 years +	1061	48.9	3.26	826	47.7	3.04
3 years +	1121	51.8	3.28	886	50.1	3.20
4 years +	1140	54.5	3.43	909	53.2	3.14
5 years +	1143	57.0	3.51	839	56.1	3.42
6 years +	1051	59.3	3.54	969	58.4	3.49
7 years +	957	61.8	3.40	927	60.7	3.58
8 years +	1004	63.8	3.48	837	63.0	3.76
9 years +	924	65.4	3.88	817	64.8	3.60
10 years +	961	67.4	3.82	816	66.9	4.30
11 years +	1012	69.5	3.60	781	69.3	4.39
12 years +	990	71.4	4.16	706	72.4	4.82
13 years +	930	74.1	5.04	702	74.4	4.57
14 years +	941	76.9	5.37	622	76.9	4.53
15 years +	904	80.0	5.40	702	78.0	4.19
16 years +	918	82.2	4.87	625	78.5	3.63
17 years +	785	83.8	4.22	575	79.3	3.50
18 years +	724	84.3	4.27	497	79.6	3.42
19 years +	576	84.8	3.39	431	79.1	3.55
20 years +	369	85.0	3.52	296	79.7	3.22
21 years +	41	84.6	3.06	29	80.0	2.77

TABLE 81

Means and standard deviations (S.D.) for weight of infants and children aged 1 through 21 years by sex and varified age ; with actual number of children measured.

Age	Sex					
	Boys			Girls		
	Weight (kg )					
	No.	Mean	S.D.	No.	Mean	S.D.
Less than						
3 months	93	6.2	1.44	78	5.2	1.15
3 months +	210	6.7	1.49	104	6.5	1.25
6 months +	220	7.2	1.95	123	6.2	1.08
9 months +	213	7.4	1.19	105	7.3	1.53
1 year +	1160	8.4	1.47	916	7.9	1.62
2 years +	1061	10.1	1.71	826	9.5	1.74
3 years +	1121	12.0	1.87	886	11.1	1.79
4 years +	1140	13.5	2.02	909	12.8	2.11
5 years +	1143	14.9	2.29	839	14.4	2.29
6 years +	1051	16.1	2.76	969	16.1	2.45
7 years +	957	18.0	2.93	927	17.5	3.02
8 years +	1004	19.7	3.30	837	19.4	3.44
9 years +	924	21.4	3.67	817	21.2	4.00
10 years +	961	23.6	3.91	816	23.6	4.76
11 years +	1012	26.2	6.77	781	26.2	5.56
12 years +	990	28.6	5.56	706	30.0	6.83
13 years +	930	32.4	7.01	702	33.7	7.29
14 years +	941	35.9	7.66	622	37.4	7.35
15 years +	904	40.3	8.15	702	39.8	6.67
16 years +	918	43.9	7.59	625	40.8	6.65
17 years +	785	46.5	7.49	575	43.0	6.46
18 years +	724	47.9	6.47	497	43.0	6.79
19 years +	576	48.6	6.18	431	43.1	6.37
20 years +	369	49.4	6.25	296	43.2	6.99
21 years +	41	50.0	6.40	29	44.0	6.18

**Tables**  
**on**  
**Puberty Sign**



TABLE

Mean age at the attainment of selected  
(States of India) and

Puberty sign	Region (States)											
	Andhra Pradesh		Delhi		Jammu and Kashmir		Kerala		Madhya Pradesh		Madras	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
	Age in											
Pubic hair	14.41	15.74	12.85	—	15.69	14.42	13.65	14.37	13.59	14.19	14.34	14.15
Axillary hair	14.66	15.74	13.82	—	15.65	14.48	14.94	15.53	12.94	14.24	14.66	15.33
Cheek hair	16.69	17.92	15.90	—	15.62	16.49	15.90	16.76	16.53	18.59	16.22	16.28
Chin hair	15.76	16.33	15.66	—	15.57	16.20	15.58	16.43	15.63	17.35	16.10	16.08
Upper lip hair	14.79	15.76	14.77	—	15.40	14.39	15.27	15.50	13.32	14.54	14.94	15.51
Change of voice	17.21	18.20	13.84	—	15.57	13.85	13.71	14.60	14.30	16.89	13.47	14.42

82

puberty signs of boys by region  
residence (urban/rural).

of India)

Maharashtra				Orissa		Punjab		Rajasthan		Uttar Pradesh		All India (Pooled)	
Nagpur		Poona											
Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
years													
13.31	13.43	13.34	13.57	14.60	—	13.85	13.60	13.73	13.40	13.89	14.44	14.00	13.82
14.28	14.71	14.32	14.69	14.59	—	13.96	13.93	14.46	14.27	14.04	14.50	14.59	14.25
16.91	18.48	17.61	18.73	14.81	—	15.78	16.76	17.94	19.22	16.61	16.42	17.42	16.63
16.51	17.77	16.29	16.73	14.65	—	15.42	15.84	16.60	16.67	16.24	16.12	16.46	16.03
14.82	15.69	14.57	14.78	14.89	—	14.26	13.38	15.04	12.81	15.19	15.33	14.68	14.82
13.42	13.48	15.03	15.88	15.14	—	13.83	13.09	13.64	12.05	13.96	14.50	14.24	14.30

TABLE

Mean age at the attainment of selected  
(States of India) and

Puberty Sign	Region (States)											
	Andhra Pradesh		Delhi		Jammu and Kashmir		Kerala		Madhya Pradesh		Madras	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
	Age in											
Pubic hair	12.27	12.22	11.42	—	11.23	11.87	12.95	13.40	12.23	—	13.12	12.48
Axillary hair	12.27	12.22	11.02	—	10.92	11.97	12.98	13.47	11.43	—	13.23	13.02
Breast areola raised	11.18	12.25	7.52	—	10.95	11.54	12.49	12.53	10.71	—	11.32	12.10
Breast tissue enlarged	11.92	12.22	10.04	—	11.36	12.19	12.47	12.72	11.69	—	12.01	11.79
Mens- truation	12.81	12.27	12.34	—	13.59	14.80	13.77	14.64	12.96	—	13.42	14.29



83

**puberty signs of girls by region  
residence (urban/rural).**

of India)													
Maharashtra				Orissa		Punjab		Rajasthan		Uttar Pradesh		All India (Pooled)	
Nagpur		Poona		Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Urban	Rural	Urban	Rural										
years													
11.96	12.76	12.68	13.30	11.00	—	12.28	12.29	12.85	—	13.81	12.90	12.72	13.02
11.90	13.05	12.97	13.85	10.99	—	12.29	12.74	12.85	—	13.45	12.82	12.63	13.33
12.04	11.69	11.50	11.78	11.00	—	11.47	11.06	11.86	—	12.99	12.26	11.73	12.07
11.35	12.18	12.29	12.86	10.99	—	12.38	12.42	12.72	—	12.76	12.80	12.16	12.66
13.78	13.98	13.70	14.63	11.38	—	13.67	14.21	14.00	—	13.35	12.94	13.39	14.04

TABLE 84

Mean age at the attainment of selected puberty signs of boys  
by religion.

Puberty sign	Religion				
	Hindu	Muslim	Christian	Sikh	Jain
	Age in years				
Pubic hair	13.89	13.97	13.91	13.49	13.66
Axillary hair	14.40	14.31	14.59	13.83	14.40
Cheek hair	16.96	16.25	16.64	16.55	17.35
Chin hair	16.24	15.77	16.04	15.56	16.44
Upper lip hair	14.84	14.66	14.89	13.60	14.72
Change of voice	14.32	14.24	14.55	13.11	14.17

TABLE 85

Mean age at the attainment of selected puberty signs of girls  
by religion.

Puberty sign	Religion				
	Hindu	Muslim	Christian	Sikh	Jain
	Age in years				
Pubic hair	14.26	13.14	14.53	12.21	16.02
Axillary hair	14.18	12.89	14.52	12.22	16.00
Breast areola raised	12.27	12.16	12.08	10.62	11.62
Breast tissue enlarged	12.66	12.60	11.99	12.09	12.51
Menstruation	13.92	14.06	13.18	13.73	14.11

TABLE 86

Mean age at the attainment of selected puberty signs of boys by  
socio-economic status

Puberty sign	Socio-economic class					
	Class I	Class II	Class III	Class IV	Class V	Class VI
	Age in years					
Pubic hair	12.95	13.68	13.73	13.79	13.94	14.02
Axillary hair	13.40	14.04	14.10	14.20	14.57	14.52
Cheek hair	16.13	16.13	16.39	16.60	16.79	17.22
Chin hair	15.40	15.58	15.71	15.93	16.14	16.45
Upper lip hair	13.95	14.37	14.40	14.57	14.86	14.97
Change of voice	13.73	14.09	14.16	14.26	14.26	14.36

TABLE 87

Mean age at the attainment of selected puberty signs of girls  
by socio-economic status.

Puberty sign	Socio-economic class					
	Class I	Class II	Class III	Class IV	Class V	Class VI
	Age in years					
Pubic hair	13.42	13.59	13.82	14.25	14.00	14.57
Axillary hair	12.99	13.19	13.52	14.01	14.19	14.62
Breast areola raised	11.08	11.33	11.70	12.15	12.09	12.49
Breast tissue enlarged	11.33	11.93	12.08	12.47	12.65	13.08
Menstruation	13.21	13.27	13.34	13.60	14.03	14.56



TABLE 88

Mean age at the attainment of selected puberty signs of boys  
by per-capita income.

Puberty sign	Per-capita income						
	Group I	Group II	Group III	Group IV	Group V	Group VI	Group VII
	Less than Rs. 51	Rs. 51- Rs. 100	Rs. 101- Rs. 200	Rs. 201- Rs. 400	Rs. 401- Rs. 600	Rs. 601- Rs. 900	More than Rs. 900
Age in years							
Pubic hair	14.21	14.05	13.89	13.77	13.78	13.71	13.42
Axillary hair	14.66	14.64	14.46	14.27	14.15	14.05	13.85
Cheek hair	17.24	17.20	17.10	16.75	16.63	16.17	16.15
Chin hair	16.55	16.45	16.27	16.07	15.93	15.46	15.61
Upper lip hair	15.08	15.05	14.78	14.58	14.51	14.38	14.26
Change of voice	14.80	14.45	14.26	14.15	14.14	14.09	13.93

TABLE 89

Mean age at the attainment of selected puberty signs of girls  
by per-capita income.

Puberty sign	Per-capita income						
	Group I	Group II	Group III	Group IV	Group V	Group VI	Group VII
	Less than Rs. 51	Rs. 51- Rs. 100	Rs. 101- Rs. 200	Rs. 201- Rs. 400	Rs. 401- Rs. 600	Rs. 601- Rs. 900	More than Rs. 900
Age in years							
Pubic hair	13.46	14.38	14.44	14.12	13.72	13.48	13.31
Axillary hair	13.52	14.51	14.48	13.98	13.45	13.20	12.80
Breast areola raised	12.66	12.61	12.24	11.89	11.83	11.45	11.10
Breast tissue enlarged	12.85	13.13	12.75	12.39	12.12	11.93	11.56
Menstruation	14.02	14.59	14.12	13.66	13.32	13.31	13.01

**First Edition:** 1972

**Reprinted** 1984

**Reprinted** 1989

**Price: Rs.10.00**



---

Printed at ICMR Offset Press, New Delhi.